



AN EVALUATION OF THE 1991 CENSUS OF POPULATION AND HOUSING

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AND HOUSING**

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EXECUTIVE SUMMARY

Background

The evaluation of the Census of Population and Housing (the Census) was included in the Portfolio Evaluation Plan of Treasury Portfolio because it is one of the most significant activities of the Australian Bureau of Statistics (ABS). The Census is a main data source for informed decision making for governments, organisations and the community. In 1993/94 prices, the cost of the 1996 Census is expected to be \$135 million.

The evaluation was directed by a Census Evaluation Steering Committee comprising senior members of the ABS and Professor Max Neutze, AO, of the Australian National University who is a member of the Australian Statistics Advisory Council (ASAC). The evaluation assessed the effectiveness of the data delivery from the 1991 Census and guided the development of the 1996 Census. It covered the quality, efficiency and effectiveness of the different phases of the Census.

Major Findings and Conclusions

Frequency of the Census

The Evaluation Committee drew on work by the Interdepartmental Committee which found that any move to extend the inter-censal period beyond 5 years would:

- increase the possibility of a successful High Court challenge to an electoral distribution because of the requirements of s.24 of the Constitution;
- adversely affect the accuracy of population estimates used in determining the level of grants to States and Territories which might result in significant misallocations; and
- significantly affect the effectiveness and efficiency of many planning and investment decisions which rely on timely and accurate data on small areas and small population groups.

The Interdepartmental Committee concluded that it would not be prudent to reduce the frequency of the Census.

Content and Coverage of the Census

Because of the relevance of Census data for decision making, particularly for small areas and small population groups, the Interdepartmental Committee concluded that the savings achievable from alternatives including a reduced content Census or the use of sampling in the Census, were small relative to the advantages of the current Census. The Interdepartmental Committee did not support any reduction in Census content and concluded that it would not be prudent to adopt sampling for the Census.

Cost Efficiency of the Census

The Evaluation Committee found that, through the introduction of computer technology, a saving of \$5 million being realised with 1991 Census and an additional saving of \$5 million will be realised in the 1996 Census from a special accommodation arrangement with Australian Estate Management.

As a result of these initiatives, the (real) per capita cost of Census has been reduced during the period 1986 to 1996. Indeed, under current Government policies on user-pays and awards, the 1996 Census per capita cost of \$6.83 per person (at 1993 prices) is 2.3 per cent less than the 1991 Census per capita cost. Similarly, the 1991 Census per capita cost was 1.7 per cent less than the 1986 Census per capita cost.

The Committee has found that the cost of the Australian Census compares favourably with other statistically developed countries.

The Evaluation Committee concluded that the Census Program is focused on the cost efficiency of the Census and that the Census costs have declined over time through the effective use of technology and savings initiatives. In order to monitor costs over time, the Committee recommended that good financial records be continued to be maintained.

Development Phase

The content for each Census is recommended to Government after extensive consultation with the user community and consideration and discussion by ASAC. The Evaluation Committee found that this process was thorough and balanced.

Collection Phase

The Collection phase of the Census was formally evaluated in late 1991 at a national conference. The Collection phase was completed on time and within budget, and was considered to have been successful. As measured by the Post Enumeration Survey, the proportion of the population not counted in the Census was similar to that in the 1986 Census while in other countries the proportion has increased.

The recommendations of the national conference are being implemented for the 1996 Census.

The Evaluation Committee concluded that a national evaluation conference on the Collection phase is an effective method of evaluation and recommended that a similar exercise be held after the 1996 Census.

Processing Phase

The Processing phase carried out at the Data Processing Centre (DPC) was evaluated at the end of 1992 at a meeting to consider reports by supervisory staff of the DPC. The Processing phase was completed within budget and one week behind schedule, and was considered to have met its objectives.

Whilst most of the recommendations of the evaluation have been adopted for the 1996 Census, the recommendation calling for the use of Optical Character Recognition technology and Automatic Coding was not accepted.

The Evaluation Committee was satisfied with the evaluation method and recommended a similar evaluation for the 1996 Census.

Output/Dissemination Phase

The Evaluation Committee considered the findings from an internal evaluation and from independent market research consultants.

Users found that the key strength of the Output/Dissemination phase was the quality and usefulness of Census data. Other strengths were service delivery through a range of output media, presentation and ease of use. Customer support was considered to be responsive and conscious of the need to provide a high level of service.

Users found that the major weakness was the ABS' inability to adhere to the widely publicised release dates for Census products and services, in particular, CDATE91. The Committee found that this was largely due to an unrealistic data release timetable, the lack of coherence and integration of the processing systems, and the inadequacy and inflexibility of certain processing tools. These are being addressed for the 1996 Census.

The market research also found that in the view of users the Census data took too long to produce. The 1996 Census data will be released earlier because of a two-phase processing and dissemination approach.

The ABS continued to make a wide range of Census data freely available to the community in both printed and electronic formats through the library network. In particular, CLIB91, a CDROM product which contains all the standard profiles available in CDATE91 and matrix tables and easy to use software to allow the data to be selected, viewed, aggregated and printed, was developed specifically for library use.

All other Census products and services were priced in accordance with the Government's user-pays policy. This policy has allowed the ABS to extend and improve the range of products and services available from the Census.

The cost of customised Census services has been reduced with the introduction of new technology for tabulations. It is expected that the use of the ABS Database to store and disseminate 1996 Census data will further reduce the cost of data delivery.

Noting that the ABS has established an Output Planning Group, the Evaluation Committee concluded that the Census Program is already addressing most of the problem areas identified during the evaluation.

Evaluation Phase

The Census Program carried out a systematic program to evaluate the 1991 Census data and the effectiveness of Census procedures

Seven Working Papers on data quality and the effectiveness of Census procedures have been produced and disseminated. The Committee was informed of problems with the Indigenous dwelling counts in the basic community profiles, the non-private dwelling types data, and non-additivity in the profiles due to the methods of random perturbation used to protect the confidentiality of individual's data. These data problems are being addressed for the 1996 Census.

The Committee found that a satisfactory program was in place to systematically review the quality of Census data, and noted that the quality of the 1991 Census was higher than that of the 1986 Census. The Committee recommended that continued attention should be given to providing a more satisfactory system of random perturbation and to improve the enumeration of the Indigenous population.

Management Structure and Processes for the Census

A number of management committees were established to review and advise on Census strategic directions. In addition, planning of the different phases of the Census is oversighted by ASAC.

The Evaluation Committee found that the committee structure provides an effective forum for consultation and decision making whilst allowing the Census managers to manage. In addition, ASAC's scrutiny of the Census ensures that the statistical priorities are appropriate and procedures effective.

INTRODUCTION

Purpose and Origin of the Evaluation

1. The purpose of this evaluation of the Census of Population and Housing is to assess the effectiveness of the data delivered from the 1991 Census and, in doing so, guide the development of the 1996 Census.
2. The evaluation of the Census was selected and included in the Treasury Portfolio Evaluation Plan for 1992 on the basis that it was one of the most significant activities of the Australian Bureau of Statistics (ABS), which has major resource implications and is a main data source for informed decision making for governments, organisations and the community.

Description of Program being Evaluated

3. The Population Census Program which develops and conducts the Census of Population and Housing, is part of the Statistical Operations Sub Program of the ABS and is the focus of the evaluation. Other areas of the ABS in both the central office in Canberra and capital cities in the States also contribute to the Program's activities and are responsible for the dissemination of Census data to public and private sector users through standard Census products (publications, CDATA, etc.) or the information consultancy service for more specialised Census data requests. To the extent that these areas contribute to the performance of the Census Program, they are included in the scope of the evaluation.

4. The objective of the Census Program is:

To accurately and efficiently measure the number and key characteristics of people in Australia on Census night and so provide:

- a reliable basis for the estimation of the population of each of the States, Territories and local government areas primarily for electoral purposes and the distribution of government funds; and
- information about characteristics of the population and its housing within small geographic areas and for small population groups to support the planning, administration, policy development and evaluation activities of governments and other users.

5. To achieve this objective, a full content - full enumeration Census has been held every five years since 1961. The frequency of the Census is specified in an amendment to the Census and Statistics Act 1905 enacted in 1975 following a High Court decision and an Opinion provided by the Solicitor-General and Attorney-General. Further discussion on the use of Census data to calculate the number of seats for the House of Representatives and the allocation of grants to the States can be found at paragraphs 52 to 57. Further discussion of Census data to support planning, administration and policy development by the Commonwealth can be found in the Interdepartmental Committee Report on the Review of the Census of Population and Housing attached at Appendix 1.

Management Strategy

6. The Census Program undertakes a series of reviews and evaluations of the Census at various stages of its development, conduct and dissemination. These all contributed to this evaluation. They were managed by the Assistant Statistician responsible for the Census Program, under the direction of the responsible First Assistant Statistician, and involved senior managers from a number of disciplines across the ABS.

7. Implementation of the recommendations are oversighted by one of the management groups set up for the purpose which include the Social Statistics Strategy Group, the Census Output Planning Group and Management Review Committees (for information technology related issues).

8. The evaluation was directed by a Census Evaluation Steering Committee comprising senior members of the ABS and Professor Max Neutze AO, of the Australian National University, a member of the Australian Statistical Advisory Council (ASAC). Full details of the composition of the Committee are shown at Appendix 2. The committee met three times to steer the work of the evaluation.

Resources Employed

9. Additional resources used for the evaluation comprised a Senior Officer Grade C for a period of five months who provided secretariat support to the Committee and co-ordinated the preparation of the evaluation report.

10. The Wallis Group, a consultancy firm specialising in market research, was engaged to conduct research on user views and perceptions on the delivery of 1991 Census data. The work of the consultants was steered by the ABS Census Output Planning Group which had previously been set up to oversee the development of the 1996 Census products and services. The cost of the consultancy was \$30,000.

Scope and Scale of the Evaluation

11. The published Terms of Reference for the evaluation (shown in full at Appendix 3) were:

‘to assess the effectiveness of the data delivered from the 1991 Census and in doing so, guide the development of the 1996 Census.’

12. The key issues that were to be addressed in the review were:

- the effectiveness of the 1991 Census output for policy formulation and decision making;
- draw conclusions on the above about the preferred content of the 1996 Census; and
- consider the appropriateness of individual Census topics.

13. At its first meeting, the Evaluation Committee considered the Terms of Reference and decided to amend the word ‘delivered’ to ‘delivery’. This amendment was aimed to broaden the scope of the evaluation to enable other essential aspects related to the effectiveness of the data delivered to be evaluated, e.g. quality, efficiency and effectiveness of service delivery, training and infrastructure issues, etc., particularly in light of the observation that the evaluation of the three issues outlined in paragraph 12 above had already been completed, following extensive consultation with users carried out in 1993. Consequently, additional key issues the Evaluation Committee decided to address were:

- the appropriateness of the current organisational structure for the distribution of Census data;
- the adequacy of delivery mechanisms for Census data including software and media; and
- the appropriateness of the ABS as a retailer of CDATE91.

14. The evaluation findings will be used by senior ABS management to improve the efficiency and effectiveness of the Census and its data.

15. The findings will also enable the community, the Parliament and other interested organisations to assess the effectiveness of the data delivered from the Census.

The Phases of the Census

16. The Census includes a planning phase, collection phase, processing phase, output/dissemination phase and an evaluation phase. These phases are inextricably linked and planning and work on each phase is carried out largely concurrently ensuring that changes in one area are carried through to others.

The Development Phase

17. Planning for the 1996 Census started some 7 years prior to that Census (scheduled for 6 August 1996) with the preparation of a report on the future directions of the Census. This phase mainly involves an extensive consultation program with the community and ASAC on the content to be included in the Census, before the recommendations are forwarded for Government’s consideration. It also involves consultation with the community and ASAC on the output requirements, as well as establishing the strategic collection, processing, dissemination and evaluation directions for the Census.

18. For the 1996 Census, the Development Phase also included the period of deliberation of the Interdepartmental Committee to review the Census (see para 50 to 87). The consideration by the Interdepartmental Committee provided some further insight into usage of Census data.

The Collection Phase

19. The collection phase encompasses several important stages: planning and production of accurate maps for Census collectors; printing of both Census and administrative forms; recruitment, organisation and training of

collectors; and an awareness campaign all precede the physical delivery and collection of the completed Census forms by collectors.

20. The key activity of this phase is to accurately and efficiently collect the Census data. The collection system for Australia is organised on a hierarchical basis. The basic unit is the collection district (CD) which usually represents the work area allocated to a collector. On average, each urban CD contains about 200 dwellings; there will generally be fewer in rural areas where distances between dwellings are much greater. Special collection procedures are implemented to deal with the particular issues of collecting data from Australia's Indigenous population and those in remote areas.

21. To ensure the accuracy of the data collected, an extensive testing program is carried out to produce a well designed Census form which is easily understood by householders. The next objective is to ensure that all homes are covered for the Census without overlap for which accurate maps, well trained collectors and a comprehensive publicity campaign are required.

22. In addition, a number of other measures are put in place in this phase:

- collectors are required to scan forms 'on the doorstep' to ensure that blank forms are not being returned;
- group Leaders are required to accompany each Collector soon after the commencement of the delivery and collection phases to ensure that correct procedures are being followed and to phone them twice during the delivery phase. Between these phases they are also required to check the collectors record book (in conjunction with the CD map) to ensure that no dwellings have been missed. A number of checks are also made at the end of the collection to ensure the correct material is sent to the Data Processing Centre (DPC); and
- for the 1996 Census, Field Managers should also make a considerable contribution to the quality of information collected from their area. In 1991 it was found that an extremely high proportion of their time was required to be spent on routine administrative tasks. Enabling their focus to be reoriented on quality issues was a major reason for developing the computerised Collection Operation Management System (see paragraphs 138).

23. Australia is divided into approximately 32,000 CDs and an additional 6,000 collectors are used to enumerate non-private dwellings such as hotels. Collectors report to Group Leaders (about 2,800) who in turn are managed by Field Managers (approximately 145). Each of these managers report to a State Office of the ABS. In all, approximately 41,000 temporary field staff are engaged to complete the distribution and collection of Census forms.

The Processing Phase

24. When completed Census forms are collected, they are sent under secure arrangements to the Data Processing Centre. The principal function of the processing phase is to capture accurately and efficiently the statistical data on Census forms onto computer files from which Census products and services are developed. Names and addresses of individuals are not stored on computer files.

25. For the simpler questions, which are answered with the use of mark boxes [-], the forms are processed electronically using optical mark recognition machines which translate the marks placed by the householder on the Census form onto a computer file. Those questions which cannot be dealt with in this way, for example, written answers describing a person's occupation, are coded by operators with computer assistance.

26. Quality control is maintained throughout the process to ensure that the accuracy of the data capture is of the highest standard given the cost constraints. In addition, captured data are edited to ensure that they are not invalid and do not conflict with processing rules and definitions. Where necessary, certain data are imputed based on other information available on the Census form.

The Output/Dissemination Phase

27. The key objective of this phase is to produce a suite of products and services in the right media and in a timely fashion to fulfil the data needs of users.

Standard Products

28. Products containing a variety of Census data are disseminated in several media (e.g. paper, electronic form) based on known user needs. As with the collection and processing phases, planning of the output/dissemination

phase begins ahead of Census day, normally some three years in advance. Although products and services for the 1991 Census are still being released, planning for the products and services for the next Census has commenced.

29. Among the factors taken into consideration during the planning and design of standard Census products and services are the views of users on the adequacy of the products and services currently available, and the level of support provided to users. Other factors which affect decisions include variations in the content of the Census and changes in the technology used to process and disseminate the Census results, for example CDROM technology.

Customised Products and Services

30. In addition to standard products and services, customised outputs are provided to meet specialised Census data needs. These are provided through a consultancy service which tailors information to meet the exact needs of users on a fee for service basis.

The Evaluation Phase

31. A considerable amount of evaluation work is undertaken during the earlier phases of the Census. Particular efforts are made, for example, in the Quality Assurance operation during the processing phase and in the Output Validation tasks during the output phase. In addition, a small group of staff is dedicated to systematically analysing and interpreting the output obtained from the Census. Immediately after the Census, a Post Enumeration Survey (PES) is conducted on a sample of households. The purpose of the PES is to check the accuracy of the Census count by establishing where people were on Census night and checking this information back to Census forms. The results are used to estimate the number of people double counted or not counted in the Census and adjust the Census count to arrive at the estimated resident population figure.

32. The work undertaken in the evaluation phase includes the following:

- during the development phase, the group undertakes evaluations of specific collection issues and identifies the impact of revised methods;
- during the processing phase, the group devotes considerable effort to augment the work of the Quality Assurance team. For example, in the 1991 Census cycle considerable effort was devoted to assessing the non-response rate for the various topics included in that Census; and
- a major part of the work of the group is preparation of a series of analytical working papers evaluating the quality of data supplied on a broad area of interest, for example, the quality of labour force data and the quality of counts of the Indigenous population. These analyses may also address the public reaction to particular methodological initiatives such as the performance of aspects of form design. A listing of the Working Papers prepared and planned from the 1991 Census is at Appendix 4.

Evaluation Approach and Method

33. The following approaches and methodology to evaluate the Census were used:

Collection Phase Evaluation

34. The collection phase for the 1991 Census was evaluated at a 4-day National Evaluation Conference held in December 1991. The conference, attended by representatives from all States and Central Office involved in the 1991 Census field collection phase, considered reports evaluating the different aspects of the collection and recommending changes for the next collection. A report of the outcome of the conference is at Appendix 5.

Processing Phase Evaluation

35. At the conclusion of processing at the Data Processing Centre, a similar process to that undertaken for the Collection phase was undertaken. Each Assistant Director and Group Leader responsible for different components of the processing phase prepared reports for the areas for which they were responsible. The reports evaluated issues affecting the areas such as aspects of work processes, training, staffing and other administrative matters and where necessary, appropriate recommendations were made.

36. The final report of the 1991 Census Data Processing Centre is at Appendix 6 of this report.

Data Quality Evaluations

37. In addition to the data quality checks performed at the Data Processing Centre, a program was undertaken to systematically evaluate the quality of the data from the 1991 Census. These evaluations included the investigation of the effects on data quality of partial response, sequencing instructions, self coding, extent of contact at delivery of the Census form, and response rates. In addition, the accuracy of Census data was evaluated by comparing them with data collected from the Post Enumeration Survey.

38. The findings from these evaluations provide valuable information for planning of the next Census. In addition to disseminating them in the form of commentary contained in Census products and services, the findings from these evaluations are published as Working Papers which are available free of charge to those interested.

Interdepartmental Committee Review of Content, Frequency and Coverage

39. During the 1993/94 budget process, the Government decided to review the frequency of the Census of Population and Housing. The review was undertaken by an Interdepartmental Committee (IDC) in consultation with the Australian Statistics Advisory Council (ASAC) and other interested parties. The membership and terms of reference for the Committee, as well as its review and consultation processes, together with the recommendations are included in the IDC report attached at Appendix 1. The IDC report (Report of the Interdepartmental Committee on the Review of the Census of Population and Housing) is available to the public free of charge.

40. With the Government's requirement that the review should consult widely with users of the Census, federal agencies not represented on the IDC, private organisations, academics and other parties who had previously expressed an interest in the Census were consulted. Over 50 written submissions were received.

41. ASAC members were provided a preliminary draft of the report for discussion at their meeting of the 24 November 1993 at which the Chair of the IDC attended. As this session was to be the forum through which the views of the States were to be obtained, State Government nominees on the Council were briefed earlier on the paper to ensure they had sufficient opportunity to canvass the views of individual State government agencies.

Market research

42. The ABS continually receives feedback through its normal client service channels on the adequacy of the Census products and services. Although comments received to date had indicated that no significant changes would be required for the suite of products and services from that provided from the 1991 Census, the Evaluation Committee decided to seek a systematic and in-depth qualitative study on the effectiveness of the 1991 Census products and services from the user perspective. In order to ensure independence of the findings, it decided to engage the services of market research consultants to undertake this research.

ABS Working Party Study

43. Under current arrangements, Census clients have to contact different areas of the ABS for Census data. While the Population Census Branch has the responsibility for the policy and development of Census products and services in consultation with operational units in both Central Office and the States, dissemination of the data occurs through several areas. Additionally, different organisational arrangements exist within the Central and State Offices.

44. The Evaluation Committee was concerned to ensure that the organisational arrangements for the delivery of Census data were not barriers to the effectiveness of data delivery and decided to set up a cross cutting Working Party to examine the issue. In addition, the Working Party was to examine other issues e.g. training for ABS staff and infrastructure that are essential for effective data delivery and the role of the ABS as a retailer or wholesaler of data.

Content Review

45. Review of the content to be included in the 1996 Census was undertaken by an extensive consultation program with the community and other interested organisations, which commenced with the release of an Information Paper, *1996 Census of Population and Housing: ABS Views on Content and Procedures* (Catalogue No. 2007.0), in February 1993. This paper was developed taking into account ABS evaluations on the conduct and outcomes of the previous Census as well as comments made by users and interested groups in connection with the 1991 Census.

46. Following evaluation of the submissions received as a result of user consultation, the ABS discussed the findings with ASAC before formulating the recommendations on Census content for Government's consideration.

47. Further review of the content was undertaken by the federal departments, and then later by Government. Following Government's approval of the Census content in August 1994, a Second Information Paper, *1996 Census of Population and Housing: Nature and Content of the Census* (Catalogue No. 2008.0) was released.

Scope of this Report

48. This report covers the results from the above methods and approaches to evaluate the Census program, except those from the ABS Working Party, which will be separately published in early 1995.

FINDINGS AND CONCLUSIONS

Frequency of the Census

49. As described above (paragraph 5), a full content-full enumeration Census has been held every five years since 1961 although only the 5 year frequency is specified in the Census and Statistics Act 1905.

50. The frequency of the Census was reviewed by an Interdepartmental Committee which was established during the 1993/94 budget process. The Terms of Reference for the Interdepartmental Committee specifically required that the frequency of the Census be reviewed notwithstanding the legislative requirement for a five yearly Census. They stated, in part:

‘Review the proposal that the Census be conducted at 7 or 10 year intervals.’

51. The proposal to undertake a full content-full enumeration Census every 7 or 10 years was expected to result in an average annual reduction in outlays of \$8 million and \$13.5 million (in 1993/94 prices) respectively. This is against a cost benchmark of \$27 million per year (in 1993/94 prices) for a Census with a five yearly cycle. The Interdepartmental Committee examined the impact of lengthening the intercensal cycle and gave several reasons to retain the current five yearly cycle.

Findings

Electoral Requirements

52. Section 24 of the Constitution provides that the number of members of the House of Representatives chosen in the several States shall be in proportion to the respective numbers of their people. The High Court, in Attorney General (Cth); *Ex rel McKinlay v The Commonwealth* (1975) 135 CLR 1 held that the populations of the States must be ascertained during the life of each ordinary triennial House of Representatives and in time to permit ordinary elections based on those numbers.

53. Attorney-General Ellicott and Solicitor-General Byers later advised that if quinquennial Censuses were to be held, the High Court decision required that statistical estimates be made during the life of each ordinary or triennial Parliament and reasonably close to its termination. The Government of the day opted for quinquennial Censuses with a population estimate based on those Censuses to be made one year into the life of each House of Representatives and the necessary amendments were made to the Census and Statistics Act 1905, the Commonwealth Electoral Act 1918 and the Representation Act 1905 in 1977.

54. The Interdepartmental Committee found that any move to increase the inter-censal period would significantly increase the possibility of a successful constitutional challenge to an electoral distribution. This risk increases the longer the period between each Census.

Commonwealth Outlays and Payments to the States

55. It is evident that many Commonwealth program outlays and the distribution of the bulk of financial assistance grants to the States are dependent upon Census data.

56. The distribution of funds to the States are based on per capita relativity factors determined by the Commonwealth Grants Commission (the Commission) using a wide range of Census data. These factors are then applied to the estimates of population numbers. The allocation and management of major specific purpose payments to the States and Territories, for hospitals, education and housing and the management of the Commonwealth's own social welfare programs (social security and welfare, health, higher education and community services) are all heavily dependent upon Census data.

57. The Committee found that an increased inter-censal period would have an adverse effect on population estimates used in determining the level of grants to States and Territories which might result in significant misallocations.

58. The availability of accurate data was seen to be even more important given the Government's current focus on employment. The Committee noted that labour force data for small population groups were available only from the Census.

Benchmarks for Household Surveys

59. A range of surveys undertaken by the ABS (monthly labour force, national surveys on health, income, expenditure, etc.) are all designed using Census data. The efficiency of the design deteriorates over time so any increase in the intercensal period would also have an effect on the cost of running such surveys. For example, without the use of the 1991 Census data, the sample for the 1993 Monthly labour force sample would have increased by 4,000 to 34,000 households in order to maintain the accuracy and quality of the survey.

Small Area Data

60. Many of the submissions received by the Interdepartmental Committee from a range of not only public, but private and social welfare groups were very concerned at the possibility of the increase in the period because of the impact on the availability of reliable data for small areas and small population groups. Less frequent Census data would have a significant impact on the effectiveness and efficiency of many planning and investment decisions.

Conclusions

61. The Interdepartmental Committee concluded that, having regard to the requirements of the Electoral Act and Grants Commission and the pressures in the areas of unemployment, regional and social policy, it would not be prudent to reduce the frequency of the Census.

Content of the Census

62. The Interdepartmental Committee, as part of its terms of reference for reducing the cost of the Census, examined alternatives to the full content - full enumeration Census. The Terms of Reference for the review stated, in part:

'Consider the advantages and disadvantages of other options for reducing the cost of the 1996 Census, limiting options to those still feasible within the timeframe. This should include the option of a reduced Census each 10 years starting in 1996, with a full Census each 10 years commencing in 2001.

Consider other options for Censuses beyond 1996 including a short form Census, with more detailed questions limited to a population sample.'

Alternative Content Options

63. The following alternatives to the full content-full enumeration Census provide for different content levels. Attachment B of the IDC report (Appendix 1) lists the topics which would be asked under each of the options.

Reduced Content

64. Under this option, certain topics are omitted from those under a full content Census on the basis that they involve relatively high processing costs - See column 3 of Attachment B of the IDC report and footnote (a).

Headcount Census

65. This option provides only the basic demographic data, namely, age, sex, marital status, address, Aboriginal/Torres Strait Islander origin - see column 4 of Attachment B of the IDC report - needed for electoral and limited Commonwealth grant allocation purposes. Under a headcount census, usual residence 1 year ago would be coded only to State/Territory level.

Long/short Form Census

66. Under this option, data from the long form are collected or processed only for a sample of the households (and individuals) while data from the short form are processed for every household and individual. The questions in the short form are a subset of the questions in the long form - see column 5 of Attachment B of the IDC report.

Rolling Full Content Census

67. A rolling full content Census would involve a headcount Census every five years, supported by a rolling program of sample surveys to provide auxiliary information during the intercensal period. This option is estimated to cost more than the full content option.

68. The Interdepartmental Committee considered combinations of the above options and identified the following six possible scenarios for future Censuses.

- (a) A Headcount (1996) + full content (2001) and alternately thereafter.
- (b) A Reduced content (1996) + long/short form (2001 and thereafter).
- (c) A Reduced content (1996) + rolling full content (2001 and thereafter).
- (d) A Full content (1996) + rolling full content (2001 and thereafter).
- (e) A Reduced content (1996) + a Full content (2001), and alternately thereafter.
- (f) A Full content (1996) + Long/short form (2001) and thereafter.

Findings

69. The Interdepartmental Committee rejected option (a) because it gave less information than the alternate Reduced Content/Full Content option (Option (e)) with only the same level of savings.

70. Because Option (b) contained two elements that were already included in options subject to detailed evaluation, the Committee took the view that the option not be considered separately.

71. The Committee rejected Options (c) and (d) because both options contain the Rolling Full Content element which has been estimated to cost more than the current full content Census undertaken, and found that both options were not cost effective.

72. The Committee found that Option (e) saves approximately \$22 million over the full 10 year cycle or \$2.2 million per year (in 1993-94 prices), whilst Option (f) saves approximately \$20 million over 10 years or \$2 million each year (in 1993-94 prices).

73. On the other hand, it also found that the information about occupation, industry, qualifications, journey to work and usual address five years ago, would be less up-to-date and therefore less reliable. It also found that the value of the data from these topics, in respect of both accuracy and availability for small areas, was high and might well increase.

74. In addition, the Interdepartmental Committee also found that these data were used by a wide variety of public, private and social welfare groups and that the use of less reliable data or up-to-date data under Options (e) and (f) could lead to resources being misallocated.

75. The public sector uses the data on occupation, industry and qualifications in targeting and managing its labour market programs (\$1.3 billion in 1993-94) in order to evaluate the success of existing policies and, where necessary, formulate new policies. Specific labour market programs (e.g. Jobtrain) use small area data to align job skills with industry requirements and the Office of Labour Market Adjustment uses Census data for industry assistance packages for regions affected by labour adjustment in specific industries.

76. The allocation of resources for school, higher and vocational education would also be affected given the requirement to adjust resources to the changing structure and needs of the community. It would also reduce the capacity of the migration program to identify the needs of the labour market and thus affect the opportunity for bringing new skills into Australia.

77. Census data are used in establishing the distribution of minority groups throughout the community in order to target access and equity programs. Similarly, the quality of careers advice would suffer from a reduced level of information on individual segments of the labour market.

78. Data on Journey to Work are used in a range of urban planning decisions such as the provision of roads, public transport, housing, social and welfare services and child care facilities. Other uses include: the targeting of industry location to align with natural labour markets; targeting specific labour market programs with local area profiles; and issues affecting energy and the environment.

79. Data on Usual Address Five Years Ago are available only from the Census and provides data on internal migration patterns to assist State and local governments with urban planning and infrastructure planning.

Conclusions

80. The Interdepartmental Committee concluded that given the modest savings available, it would not be prudent to reduce the currency or the reliability of the data by adopting Option (e) or (f) because of the particular relevance of the data which would be collected less frequently in planning and managing labour market, education and training policies and urban planning, particularly in respect of small areas. Consequently, it did not support any reduction in Census content.

Coverage of the Census

81. As part of its terms of reference for considering ways to reduce the cost of the Census, the Interdepartmental Committee examined four alternatives (namely Options (b), (c), (d) and (f) - see paragraph 68) to the full content-full enumeration, which use sampling.

82. In discussions with the Assistant Chief Statistician of Canada about the long/short form Census, the Interdepartmental Committee was told that this sampling had been adopted by Statistics Canada as the best compromise between cost and meeting user needs, although data in relation to the sampled topics is not available for small areas through this method. In addition, the sampling proportion was varied for areas of the far north and Indian reservations to meet specific information needs for these areas. It should be noted that Canada also uses the Social Insurance Number (SIN) to link data from a number of other sources, e.g. Income Tax, Immigration and Death Registration data bases. The output from such studies augments data obtained through the Census. These sources are not available in Australia.

83. An alternative method of sampling is undertaken in the United Kingdom where the Census is undertaken every 10 years and the content differs only marginally from that collected in Australia. A Census form is distributed to each household but only a 10 per cent sample of the topics relating to relationship between members of a household, hours worked, occupation, industry, address of place or work, means of travel to work and educational qualifications are processed.

84. During consultations on the 1991 Census, users expressed widespread concern about the option of sampling some of the topics proposed for inclusion and argued that full coverage with similar content to the 1986 Census represented the minimum which would adequately meet their needs. User submissions to the Interdepartmental Committee confirmed this view with respect to the 1996 Census.

85. The ABS considers that even the use in Australia of a large sample (25 - 30%) for the long form would not provide accurate statistics at the level of detail required for many users. Additionally, because of the unevenness of response load, there is a concern about the difficulty of convincing the households chosen for the long form to provide the necessary additional information in order to maintain the representativeness of the sample. On the other hand, if the UK approach is adopted, it conflicts with the Information Privacy Principle that personal information is not to be collected unnecessarily. There is a concern about the perception by the public that 90 per cent of the long form information provided will not be used because of the sampling process used.

Findings

86. The Interdepartmental Committee's findings on option (b), (c), (d) and (f) are summarised in paragraphs 70 to 74.

Conclusion

87. The Interdepartmental Committee concluded that compared with the modest savings available, it would not be prudent to adopt sampling for the Census because of the particular relevance of accurate data in planning and managing labour markets, education and training policies and urban planning, particularly in respect of small areas.

Cost Efficiency of the Census

88. It is neither easy nor straightforward to evaluate the cost efficiency of the Census. First, as the Census is unique, no similar operation exists in Australia against which it can be compared. Second, because the Census expenditure reflects changes in Government policy on user-pays, industrial relations and other aspects related to the Census, it is difficult to compare the Census expenditure over time to ascertain cost efficiency. Third, principally because different countries have different practices in costing and recording the expenditure of the Census, it is also difficult to make meaningful international comparisons.

89. Nevertheless, the cost of each Census is scrutinised by the Department of Finance prior to consideration of the proposed budget by the Government. As noted by the Interdepartmental Committee (IDC) which reviewed the Census " (this process)... allows an opportunity for the Department of Finance to scrutinise the efficiency of the ABS in managing the Census ... " The IDC also noted that the proposals for treating the Census as existing policy in the budget context " ..will not preclude the opportunity for the Department of Finance to scrutinise the cost efficiency of the Census with the clear expectation that, through efficiencies, the real level of resources applied to the Census, adjusted to take account of inflation, population growth and changes in government policy on funding ... would reduce over time."

Comparison of the Cost of Recent Australian Censuses

90. A major difficulty with comparing the costs of consecutive Australian Censuses is changes in the scope and coverage of costs caused by changes in Government policies on aspects related to the Census. The following example illustrates how the cost of the Census was increased by the introduction of user-pays policy.

<i>Year of Census</i>	<i>Costing of Census Mapping</i>
1981	All mapping work undertaken by AUSLIG with, no charge to Census.
1986	Work undertaken by AUSLIG on partial cost recovery basis. Only contract drafting work (i.e. marginal cost) charged to ABS and thus Census.
1991	Work undertaken by AUSLIG on full cost recovery basis. All costs charged against the Census.
1996	Work undertaken by external contractors. All costs charged against the Census.

Note: AUSLIG is the Australian Surveying and Land Information Group. In 1981 and 1986, was then the Division of National Mapping (NatMap).

91. As another example, while the basic rate of pay for a collector is still tied to that of the entry point of an ASO1 and while the technology for the delivery/collection process has remained constant (collectors driving around their district and walking up to each dwelling), the real cost of paying collectors over the last two Censuses, even allowing for growth in the number of dwellings in Australia, is estimated to have increased due to the award restructuring of ASO grades and the introduction of Government policy on employer superannuation contributions.

92. The estimated per capita cost for the 1996 Census (at 1993 prices) is \$6.83 per person. The per capita cost for the 1991 Census (at 1989 prices) was \$5.86. The difference between the two per capita costs is attributable to inflation, different Government policies and Census efficiency. If the 1996 Census were conducted using the 1991 Census methods and under current Government policies, the per capita cost is estimated to be \$6.99 (at 1993 prices). It follows that the real per capita cost of the 1996 Census is 2.3 per cent (i.e. $1 - 6.83/6.99$) less than the 1991 Census per capita cost. Similarly, if the 1991 Census were conducted using the 1986 Census methods and under Government policies applicable at the time of the 1991 Census, the 1991 Census per capita cost is estimated to be \$5.96 (at 1989 prices). Therefore, the 1991 Census per capita cost is 1.7 per cent less than the 1986 Census per capita cost (i.e. $1 - 5.86/5.96$).

93. In what follows, the report identifies the specific areas of the Census operation in which significant savings have been achieved and others in which further savings are expected to be realised for the 2001 Census.

Realised efficiencies

- For the 1986 Census, data were captured using clerical coding and keyboard data entry processes. For the 1991 Census, the task was carried out using Optical Mark Recognition technology with computer assisted coding. It is estimated that this saved approximately \$5 million for the Census Program. In addition, diffusion of the technology to other areas of the ABS has also generated savings in those areas.
- Efficiency considerations have necessitated the centralised processing of Census data. In past Censuses, centralised processing of the Census was undertaken in premises rented from the private sector. For the 1996 Census, however, an arrangement entered into with Australian Estate Management (AEM) to lease a building in Ultimo for data processing will provide savings of approximately \$5 million to the 1996 Census.

- The introduction of the table generation software, SUPERCROSS, in the Census Output phase, has also greatly reduced the cost of computing for the Census. These savings have been passed on to clients through a reduction of the prices of 1991 Census tables (between \$250 - \$500 for State tables and between \$250 - \$1,000 for national tables).
- While the computer based mapping system being developed for the 1996 Census is expected to cost, in current prices, more than that used in the past, the resulting system will be far more effective both in terms of a tool available to the ABS for a wide range of applications and in meeting the needs of Census users for data in a form appropriate to the late 20th Century.
- The introduction of the Collection Operation Management System to streamline the administrative tasks in the collection phase will allow Field Managers to focus on the supervision and training of group leaders and collectors which will lead to better quality data.

Expected/Likely sources of savings for future Censuses

- The agreement to lease the Ultimo building in Sydney from AEM has been extended to the 2001 Census. Advice from the Australian Property Group indicates that this arrangement could be expected to save \$16.5 million in the 2001 Census compared to private sector rental under conditions expected to apply at that time.
- Investigation of Optical Character Recognition technology for data capture and Automatic Coding has indicated that significant savings in salaries of temporary staff could be expected in the 2001 Census if this technology is adopted.
- The computer based mapping system being developed for the 1996 Census will be used again for the 2001 Census. The investment in developing the system will not be required to be repeated in the next Census. This will outweigh the extra payments required for acquisition of base map data so, in net terms, significant savings will accrue.

International Comparisons of Census Costs

94. The difficulties evident in comparing the Australian Census costs over time are compounded when international comparisons are attempted. Obvious differences include monetary exchange rates, costs of living (which could be expected to affect salary rates), Census methodology, size and geographic distribution of the population and economy of scale, frequency of Censuses, and most importantly, practices adopted in costing and recording expenditure of the Census. (It is understood that some countries only include the additional funds in their costs.)

95. It will not be possible to make allowances for all the differences to provide a strictly comparable set of international Census cost data. However, the following table attempts to provide an illustrative comparison of the per capita cost and the cost of the Census as a proportion of the Gross Domestic Product (GDP) of five countries which have broadly similar technical level and approach to Census taking.

<i>Country</i>	<i>Australia (million) (a)</i>	<i>Canada (million) (b)</i>	<i>New Zealand (million) (c)</i>	<i>United Kingdom (million) (d)</i>	<i>USA (million) (e)</i>
1991 Census	A\$113.0	C\$250.0	NZ\$20.0	GB£140.0	US\$6,250.0
1991 GDP (f)	A\$382,321	C\$675,930	NZ\$73,213	GB£573,340	US\$5,677,500(g)
Population	16.9	28.0	3.4	56.8	249.2
Per capita costs (h)	A\$6.69	A\$7.83 – A\$10.76	A\$4.00 – A\$5.44	A\$4.80 – A\$6.32	A\$28.20 – A\$41.80
Census cost as per cent of GDP (%)	0.030	0.037	0.027	0.024	0.110

Footnotes: (a) 1991 Prices. (b) Verbal communication from Bruce Petrie, Assistant Chief Statistician, Statistics Canada. (c) Verbal communication from Len Cook, Government Statistician, Statistics New Zealand. (d) Based on information obtained by Minister (Economic) Australian Embassy, London. (e) Based on information obtained by Minister (Economic) Australian Embassy, Washington DC. Figures relate to 1990. (f) Calendar year figures: International Finance Statistics, September 1993, IMF. (g) Figures relate to 1990. (h) Census expenditures are normally incurred over a period of several years. It is not known how the costs are distributed between years for other countries, although it can be assumed that the major costs will fall between 1985 and 1991 in most cases. The estimates of per capita costs have used, for each country, the highest and lowest exchange rates for the Australian dollar recorded for the period of peak expenditure giving a range of possible per capita costs in Australian Dollars.

96. It can be seen from the above table that, in terms of either the per capita cost or the cost of the Census as a proportion to GDP, Australia is in the middle of the five countries.

97. It is particularly interesting that the Canadian and American censuses use a long form/short form approach (which would be expected to reduce costs) but overall the per capita Census costs are higher than Australian costs. Although the average UK costs are lower, it should be noted that it processes only some 10 per cent of the expensive Census questions.

98. However, caution is needed in interpreting these figures, because of the factors outlined in para 94 above that render meaningful comparison difficult.

Findings

99. The Evaluation Committee found that the Census Program has introduced technology and other initiatives to reduce the total cost of the Census. The Department of Finance scrutiny of the cost estimates of the Census ensures that variations in estimates are fully justified prior to consideration by the Government. The Evaluation Committee also found that, under current Government policies on user-pays and awards, the 1996 Census per capita cost of \$6.83 per person (at 1993 prices) is 2.3 per cent less than the 1991 Census per capita cost. Similarly, the 1991 Census per capita cost was 1.7 per cent less than the 1986 Census per capita cost.

100. Internationally, it is difficult to compare the cost efficiency of the Australian Census because of the many variations in the way countries account for and perform their censuses. However, the Evaluation Committee has found that the cost of the Australian Census compares favourably with other statistically developed countries.

Conclusions

101. The Evaluation Committee concluded that the Census Program is focused on the cost efficiency of the Census and that the Census costs have declined over time through the effective use of technology and savings initiatives. They further considered that the Census Program should continue to maintain good financial records to enable the costs of the Census to be monitored over time.

Development Phase

102. Before the content of each Census is finalised and approved by Government, the ABS undertakes extensive community consultation to determine user views on specific topics to be included. During this process, proposals are made to include new topics about which there is little data. Conversely, topics that do not need to be collected every five years are recommended for exclusion.

103. In addition to the user consultations undertaken before each Census, the Development phase of the 1996 Census included detailed discussions in the context of the Interdepartmental Committee to review the Census. These discussions considered the uses of Census data within major Commonwealth agencies. A summary of the outcome of these discussions is included on pages 13-16 of the Report of the Interdepartmental Committee (Appendix 1). While expressed in terms of 'the implications of less reliable data on five selected topics', this material indicates the effectiveness of the 1991 Census output for policy formulation and decision making.

User Consultation on Content

104. The consultation process started with the production of a document, *1996 Census of Population and Housing: ABS Views on Content and Procedures* (Catalogue No 2007.0) which outlined the ABS's views on the content and the procedures for the next Census. The views expressed were the result of feedback from a variety of sources including users, collection staff, staff at the data processing centre and evaluations undertaken within the Population Census Branch. About 3,200 copies of the document were circulated to interested parties for comment.

105. The document contained comment on individual topics including the use of the resulting data, the available non-Census data and an assessment of recent changes. For the 1996 Census, the document contained a separate section which specifically sought user views on whether the following topics should be included:

- Issue (Number of children ever born)
- Disability
- Marital Status

- Citizenship
- Number of Motor Vehicles Garaged.

106. Some 290 submissions were received and nine user meetings organised in the major capital cities. As a result of these, the topics on Issue, Marital Status, Citizenship and Number of Motor Vehicles Garaged were recommended for inclusion in the 1996 Census. Of these only the topic on Issue had been initially recommended for inclusion in the Census by the ABS.

Disability

107. The Disability topic, in particular, has generated considerable discussion. The topic was included in the 1933 Census when very limited data (compared to modern definitions of disability and handicap) was collected. A general question was included in 1976 though this produced data of very poor quality. Data are required for developing both Federal and State Government and community based programs. Data are also required at the small area level to assist in targeting resources.

108. Following representations from users, the ABS undertook field testing of questions on severe/profound handicap to establish the quality of the data which might be obtained. Results revealed that a high proportion of answers were inaccurate. Respondents either categorised themselves as suffering from a profound or severe handicap in the Census test but were not categorised as such in a follow up survey (a false positive) or were so categorised in the follow up survey but did not in their own response in the Census test (a false negative). Additionally, the number of false negatives was twice the number of false positives.

109. The concept of disability is a complex and subjective one which does not easily lend itself to providing good quality data via self enumeration methods, such as a Census, where detailed explanations of terms cannot be provided and there is no interviewer to provide additional information. While data on disability collected in surveys through a personal interview seems to be both of a reasonable quality and consistent over time, tests to date indicate it is unlikely that Census data would provide either good quality data or a consistent time series.

110. On the basis of the test results, the ABS concluded that the disability topic should not be recommended for inclusion in the 1996 Census. However, further research is being undertaken under the Commonwealth/State Disability Agreement with a view to producing synthetic estimates of the disabled population by severity of handicap at Statistical Local Areas for aggregation to planning and output regions by users. In addition, data are available (albeit not on a small area basis) from disability surveys conducted by the ABS in 1981, 1988 and 1993, from a Time Use Survey in 1992 and from a 1993/94 Household Expenditure Survey.

Ancestry/Ethnic Origin

111. Data on ancestry was collected for the 1986 Census following an investigation by the 1986 Population Census Ethnicity Committee which concluded that there was a need for additional data to that collected on language, religion, birthplace and birthplace of parents. The question was designed to identify the ancestry of people rather than a subjective interpretation of their ethnic background. Although results indicated that the question did not significantly add to existing data in many cases, the additional information did assist in studies of some groups where the persons' ancestries (or ethnic origins) were independent of their country of birth (for example, people of Kurdish ancestry).

112. As the ancestry data required clerical coding it was an expensive topic to process.

113. Following representations by users in the consultation process leading to the 1996 Census, the ABS undertook field testing to ascertain whether a suitable question would provide quality data at a lower cost. Results showed a deterioration from the responses obtained in the 1986 Census. Not only was non-response higher, but for those who answered the question, a frequent response for those born in Australia with parents born overseas was that their ancestry was Australian, which gave evidence of under-reporting of non-Australian ancestry. Based on these results, the ABS considered that the data from the alternative question did not sufficiently add to the information available from existing sources to justify the additional costs involved, and did not recommend its inclusion in the 1996 Census.

Government Decision

114. Following approval of the recommended content by ASAC, a Cabinet submission was prepared for Government consideration which detailed the proposed content of the Census. Following established process for Submissions, it contained comments from other Commonwealth agencies on the proposal.

115. Commonwealth agencies were supportive of the ABS submission although two agencies supported the inclusion of an additional topic.

116. Following Government approval of the submission in late August 1994, the content for the 1996 Census has been determined. The ABS Bulletin *1996 Census of Population and Housing: Nature and Content* (Catalogue No. 2008.0) provides details of those topics selected and those omitted and the reasoning behind the decisions.

Findings

117. The Evaluation Committee found that the processes for content determination were thorough and comprehensive (ie. issuing of *ABS Views* (ABS Catalogue No. 2007.0), extensive consultation etc) and provide opportunity for effective user input of views and a good balance between being responsive to needs, costs and practicalities.

118. Judged by the acceptance of ASAC and the Government on the proposed content for the 1996 Census, the Evaluation Committee found that the processes for determining the content of the Census are satisfactory.

Conclusion

119. The Evaluation Committee is satisfied with the processes of determining the Census content.

Collection Phase

120. The collection phase covers all those activities undertaken up to and including the collection of the completed Census form from householders. As well as the delivery and subsequent collection of the completed Census forms. This includes:

- the planning and production of accurate maps for Census collectors;
- printing of Census forms and administrative manuals and documents;
- the recruitment, organisation and training of a temporary field force of approximately 40,000 people undertaking jobs of different levels of complexity, for example, jobs of Field Manager, Group Leader, Collector and operator of telephone inquiry service (Australian Electoral Commission staff worked as Field Managers prior to the 1991 Census);
- information and interpreter services; and
- a public awareness campaign.

121. The Census program monitors overseas Census practices to assess any potential improvements that might be made to Census methods. Prior to the 1991 Census, the possible use of mailback for the return of completed Census forms used in other countries was assessed. The results of this assessment were published in a Census Working Paper entitled 'Cost of a mailback Census' in 1990 and the conclusion was that it was not a cost-effective option. Since that analysis was completed the 1990 United States Census experienced a 13 per cent decline in mailback response rate adding further weight to the conclusion. In addition, the quality of data contained in 1991 Census forms that were posted in rather than picked up by the Census collectors was examined and reported on in Census Working Paper 93/3 (see Appendix 4). The analysis found that the quality of data on these forms was lower than that contained in forms returned to collectors.

122. The review of the Collection phase for the 1991 Census (held on 6 August 1991) was discussed at the National Evaluation Conference as outlined in para 34 of this Report. The Conference discussed 23 agenda items, for which papers were prepared by both Central and State Offices, covering the whole spectrum of the collection operation. The final report of the Conference (see Appendix 5) outlines those recommendations endorsed for consideration and/or further examination or for implementation at the next Census.

123. The Collection phase of the 1991 Census is, overall, considered to have been successful. The collection was undertaken on time, and within budget. As measured by the Post Enumeration Survey, the undercount rate of 1.8 per cent was similar to the rate of 1.9 per cent achieved in the 1986 Census; in contrast, other countries have indicated an increasing level of under enumeration.

124. A number of the agenda items considered issues related to the nature of the administration of the Collection phase with seemingly little direct impact on the quality of the final data collected, for example, the level of

remuneration rates and allowances and method of payment for collection staff and financial management issues. However, these issues have an important bearing on the cost efficiency of the operation; as well, an appropriate level of remuneration is necessary to recruit staff with the skills to do the job. In the interest of brevity, these issues will not be addressed in the body of this Report, but will be provided in Appendix 5. Although no definitive solutions to issues were reached in a number of areas, the Conference discussed a number of possible alternatives with a view to further evaluation through the development process for the 1996 Census. The approach followed in the remainder of this chapter is to describe the changes made in response to the principal issues identified by the Conference, in respect to several major components of the Collection phase.

Census Form

125. The Conference identified several issues in relation to the Census form which, in itself, is fundamental to the quality of the Census data:

- concern that there were no instructions on the front of the Census form on how householders should correct mistakes;
- concern that the instructions on the front of the Census form on how to mark the form might not have been read since ticks (✓) were in some cases used in the Optical Mark Recognition boxes rather than the bar (-) required;
- re-examination of the background colours and font size to facilitate easier reading by the elderly and the visually impaired;
- use of different colours for the different types of forms; and
- A review of the content and layout of the remote area interview form.

126. Each of the proposals is carefully considered and prioritised against the information currently included on the Census form. Difficulties experienced by respondents during the previous Census may be overcome either by improving the wording of questions or by the provision of additional instructions on how to complete the form. Suitably chosen print size and colour will also ensure that they are not barriers to the aged or visually impaired for the next Census. However, in improving the 1996 Census form, care was taken not to unduly increase the size of the form or increase the number of pages which may have an overall adverse impact on the completion of the Census form. The effectiveness of these changes arising from the recommendations of the Conference has been assessed in a number of Census tests including the August 1994 Major Test for their adoption in the Census.

The Census Mapping System

127. The Conference identified a need for significant change in the way maps are produced and used in the Collection phase.

128. Maps are an essential component of the Collection phase of the Population Census and are also used in the dissemination of data. For collection purposes they are used by the collectors to identify the boundaries of their work area. This is critical to ensuring full and unduplicated coverage of Australia during the Collection phase. On the output side, maps are used in conjunction with the statistics compiled from the collected information to provide a geographic reference and to provide an important method of analysing the spatial characteristics of those statistics.

129. Up to the 1991 Census, the production of maps for collection purposes was predominantly a manual process jointly with the Australian Surveying and Land Information Group (AUSLIG), previously the Division of National Mapping. AUSLIG obtained the most up-to-date paper based maps and overlay on them details of updates to the CD boundaries provided by the ABS during the CD design program. This was a labour intensive process which only produced maps in two colours (base detail in black with the collection district outline in red) and it was not uncommon for collectors to purchase local street maps due to the lack of clarity.

130. The broad aim of the Census Mapping Project is to improve the efficiency of mapping work associated with the Census. Due to the need to make an investment in the new system the outlays for the mapping component of the Census will be higher in real terms for 1996 than 1991. However, it is anticipated that costs will be lower for the 2001 and subsequent Censuses.

131. A specific objective for the new computer based Census mapping system is that the same base map data be used for both collection and dissemination purposes. This will be achieved by obtaining base map and statistical

boundary (primarily CD) information in a digital form and using a system suitable for manipulating the statistical boundaries to maintain and produce the maps needed for both collection and dissemination purposes from a single source.

132. Operational work for 1996 will be more efficient than was the case for 1991 largely because the maps produced for the collectors will be far more easily interpreted and will look more like street directories. The availability of computer based output maps will also significantly enhance ABS' ability to produce a wider range of spatial information from the Census and, potentially, other ABS collections.

133. Significant benefits will also accrue from this particular project to other organisations which are more apparent in the output cycle. These include:

- the federal government agencies will be able to arrange access to electronic map data for the whole country, consistent and compatible between States;
- the State government agencies will acquire a fully computerised mapping system earlier than would otherwise be the case; and
- all Australian map users, who will obtain both the above benefits together with benefits resulting from the compatibility of ABS statistics with the map data.

Collection Operation Management System

134. There was considerable discussion during the Conference on the management system employed during the collection process. Although the 1991 Census Collection System was considered successful, many recommendations were made for improvement. Primarily it was found that the administrative procedures for (then) Division Managers (DMs) were cumbersome and repetitive to the extent that it diverted their attention from training, supervision and participating in public relations exercises which all have the capacity to improve the effectiveness, in terms of meeting users' needs, of the data collected.

135. The clerical burden on Division Managers in 1991 was acknowledged by the ABS through additional remuneration to DMs to compensate for the extra work generated through the 1991 Census clerical system. It is expected that the development and operation of the new system will offset the extra payments to DMs and not require any real additional outlays in the 1996 cycle.

136. Difficulties were experienced and some unacceptable delays occurred in making payments to temporary staff. Communication also proved to be an area of difficulty in 1991. Essentially a two-part strategy was employed whereby Australia Post was used for dispatching administrative material between the DM, the State Census Management Unit (CMU) and the Ferntree Pay Bureau which processed payments to Census collection staff and other material was sent by facsimile machines.

137. Consequently, a decision was made to develop a Personal Computer (PC) based system (Collection Operation Management System), which addressed the problems identified in the 1991 Census Collection System. The system will contain all details pertaining to the 1996 Census Collection Operation and allow, through an electronic communication facility, simple and timely exchanges between the Field Manager (FM) and CMU.

138. The objectives of COMS are to:

- reduce the duplication of effort for FMs and State Office staff;
- improve the communication channels between the FMs, State Offices and Central Office;
- improve the timeliness of the pay system; and
- enable Census Management Units and Central Office easy and timely access to the management and evaluation information generated during the collection operation.

Aboriginal and Torres Strait Islander Enumeration

139. The unique cultural aspects of Aboriginal and Torres Strait Islander people living closer to their traditional societies has been reflected in the Collection phase by using a different strategy for counting these people since the 1981 Census. In urban areas, normal self enumeration procedures worked well, albeit with special focus on appropriate Census awareness, collector training and a field interpreter service.

140. The special strategy reflected the different communications needs of the more traditional groups and centred around interview enumeration procedures. The Conference agreed that while coverage of the Indigenous population worked well, the experience of the 1991 Census showed that improvements could still be made. Close attention will continue to be given to the collection proceedings for Indigenous people for the 1996 Census.

141. Recruitment selection criteria for Census Field Officers (employed to enumerate communities of indigenous people) for the 1991 Census required an ability to relate to those people. Experience showed that those selected without the equally important administrative and statistical skills were at a disadvantage in 'selling' the Census, and in informing others about uses and purposes of the Census. Consequently they required additional supervision and support to function effectively. Although training material was considered appropriate, the Conference considered that training packages should be available earlier, there should be a combined workshop for those in remote areas and a schedule of training activities should be incorporated in the documentation. These issues will be addressed in developing the enumeration strategy for the 1996 Census.

142. Experience has also shown that while basic procedures must be prescribed for the conduct of the Census, each State and Territory has sufficient flexibility to apply the most appropriate procedures. Such flexibility will continue to be provided for the next Census.

Public Awareness Campaign

143. The Census public relations strategy and awareness campaign were also reviewed at the Conference. The Conference made a number of recommendations for improvement to the strategy and the timing of some of its measures for the next Census. Consultants employed by ABS during 1991 to investigate a number of aspects of public attitudes to the Census concluded that the 1991 Census campaign was very successful. The consultants found that the campaign had lifted community awareness of the Census, giving people a better understanding of the specific benefits of the Census for planning of social infrastructure and service delivery.

Findings

144. There are too many findings and recommendations resulting from the National Evaluation Conference to discuss individually here. A copy of the final report of the Conference is at Appendix 5. That Appendix demonstrates a satisfactory process for systematically evaluating the different aspects of the collection phase, and addressing issues for the next Census.

145. The Evaluation Committee found that many of the recommendations are aimed at addressing the fundamental issues identified in the 1991 Census. There have been major changes to the procedures for the 1996 Census. As noted above, the move to a computer based mapping system and a computerised operations management system have both been instituted to take advantage of the efficiencies of technology over the previous manual processes. Both these major projects have been under the stewardship of a management review committee to ensure technical feasibility, a cost effective approach and an appropriate management regime. Apart from desktop testing during the development project, both these systems were tested (along with all other aspects of the 1996 Census proposals) during the Major Test. The operation of the systems will be further evaluated in the Dress Rehearsal to be conducted in August 1995.

Conclusions

146. The Evaluation Committee concluded that the practice of review and evaluation of collection procedures through a National Evaluation Conference is a very effective evaluation tool. In particular, the preparation of papers for agenda items by those areas involved and the opportunity for the issues to be openly discussed with State colleagues not only enables problems to be identified, but also allows solutions to be considered for their suitability to all States. Comments are not restricted to areas of success either but a 'warts and all' approach is used in order that the Census service can be improved where experience has shown that procedures and/or practices can be improved. The Evaluation Committee endorses this avenue of evaluation.

147. The Evaluation Committee recommends that a similar conference be held after the conclusion of Collection Operations for the 1996 Census and that the conclusions of that Conference be published through the Portfolio Evaluation process.

Processing Phase

148. The Processing phase covers the capture of responses on Census forms and conversion to a statistical code for output purposes. Because of the magnitude of the process, this phase has always been carried out in a centralised location, the Data Processing Centre (DPC). Since the 1986 Census, the DPC had been located in a

building in Ultimo, Sydney. As the ABS has no ongoing need for premises of this size, the practice was to lease a DPC for the Processing phase of each Census.

149. As outlined in para 93 of this report, for the 1996 Census and 2001 Census, the agreement reached to lease the Ultimo building from the new owner of the building, Australian Estate Management, will bring significant savings to the Census Program. In addition, the early decision on the location of the DPC will enable the ABS to conduct more effective planning of the Processing phase for the next two censuses.

150. The 1991 Census input processing system saw the introduction of a new methodology - a combination of optical mark reading (OMR) of the forms and computer assisted coding (CAC). This direction was taken after a careful examination of the processing systems in place in a number of comparable countries including Japan, USA, Canada, France and New Zealand. In particular the New Zealand experience with computer assisted coding was examined in detail. The use of OMR and CAC for the Census was considered the most cost-effective.

151. The processing of the 1991 Census data started in September 1991 and was completed on 28 August 1992 within budget and at about one week behind schedule. While some problems were experienced, it was considered that, overall, the objectives of the processing phase had been met due to effective planning and a high level of commitment from all staff and support from other areas within the ABS.

152. As with the Collection phase, a series of reports were completed to evaluate the different aspects of the Processing phase.

153. The reports were prepared at three levels. Group Leaders and Team Leaders who were responsible for small discrete functional areas combined to report in detail on experience of both operational and administrative aspects within that area. Assistant Directors who had responsibility for several Group Leaders, also provided overall reports on their area of operations. Finally, the Director of the DPC provided a report drawing on individual recommendations to address major aspects of the operation which should be considered for the 1996 Census. The recommendations from the report of the DPC are included at Appendix 6.

154. An offsite conference which involved Census management, DPC staff and staff from other areas of the Census program was held to consider the reports. Most of the recommendations at both the operational and the management level have been adopted in planning the 1996 procedures and processing systems. The remainder of this chapter describes the key recommendations and the ABS actions taken on those recommendations in planning the 1996 Census.

The Processing System

155. Following a recommendation that the Census processing system be redeveloped, a study was undertaken to examine the feasibility of implementing Optical Character Recognition (OCR) technology and Automatic Coding (AC) for the 1996 Census.

156. Following consideration of the feasibility report, the ABS decided not to introduce the new technology for the 1996 Census, for the following reasons:

- as the form design requirements of Optical Character Recognition (OCR) technology were considered less acceptable to the public than the requirements of Optical Mark Recognition, there was concern that moving to the OCR technology for the 1996 Census would adversely affect the quality of the Census data; and
- the extensive computer system redevelopment required for OCR and Automatic Coding systems would not permit enough attention being given to addressing the timeliness (i.e. the elapsed time between collection and output) of Census output, which is one of the principal goals for the next Census.

157. The decision to remain with the current processing strategy also enabled the efficiencies that could be achieved by graduated improvements to 1991 Census systems to be achieved. One significant change to the 1991 Census processing strategy that is currently being implemented is moving from the mainframe platform to the mini and micro computer platforms in order to bring about further processing efficiencies and better job designs. The change of platform for the 1996 Census will position the processing systems to take advantage of this and other emerging technology for the 2001 Census.

158. Despite initial acceptance testing and use of the processing system for the Major Test and the Dress Rehearsal for the 1991 Census, the DPC reports identified that insufficient testing was done on the system. Because of the specialised processes at the DPC, this led to some processing inefficiencies. For the 1996 Census,

the ABS has set and achieved the goal of having all the principal components of the processing system developed and fully tested for the August 1994 Major Test.

Quality Management

159. The DPC recommendations also focus on the need for a continued emphasis on Quality Management for the 1996 Census, the redevelopment of the quality control system and the appointment of a quality manager. The 1991 Census Quality Management system was designed not only to provide a measure of the quality of the data collected but also to provide management information on error rates useful for feedback on training and procedures for coders, managers and quality management teams.

160. The approach to quality management was based on a quality improvement concept and was designed to elicit the co-operation of all staff in both identifying quality problems and suggesting solutions. Quality management teams, which involved staff from all level of the DPC, were established to examine a variety of general work and processing issues as well as the specific coding quality issues. The teams were empowered to recommend changes to indexes, systems and procedures. Most of the teams' recommendations for the 1991 Census were adopted and implemented at the DPC. The work of these teams contributed to a measurable improvement in both data quality and throughput. In line with the DPC recommendations, emphasis will continue to be placed on quality management for the 1996 Census. In addition, significant changes will be made to the 1991 Census quality monitoring system to improve its performance in delivering timely and quality information to staff and managers at the DPC for appropriate decision making. The recommendation for the establishment of a Quality Manager has been accepted.

Work Design Issues

161. Staff exit questionnaires indicated a relatively high satisfaction level with the DPC working environment although some concern was expressed about the repetitive nature of some of the duties. It should, however, be noted that most of the jobs at the DPC are base level positions which, in the midst of the recession in 1991, attracted staff who were well able to perform at much higher levels.

162. It was recommended that a suitable staff structure for the 1996 Census DPC be developed which should take account of work design and Occupational, Health and Safety (OHAS) issues. Extensive consultation was held prior to the 1991 Census DPC with the Community and Public Sector Union (CPSU) to ensure a safe working environment and a satisfactory mix of tasks. These were continually monitored through the life of the DPC through the Occupational Health and Safety Officer and staff, consultative arrangements with the CPSU and the relevant quality management team. This will again be the case in establishing the 1996 Census DPC.

163. Nevertheless, individual reports do recount instances where difficulties were experienced. For example, during the bulk recruitment process, insufficient attention was paid by the Commonwealth Employment Service to assessing applicants for supervisory positions. Difficulties were also encountered in filling temporary positions after the recruitment phase was completed. These will be addressed for the 1996 Census. On the plus side, the staff Support Unit had a positive effect on morale and provided invaluable assistance on Occupational Health and Safety issues and staff counselling.

164. Another major issue is related to the reclassification of Section Leaders to allow them to play a greater part in the operations of the DPC. This recommendation has been adopted in planning the 1996 Census DPC

165. The overall problem of work design for the lower level operational staff is harder to address. The nature of the processing task itself remains a dominant factor which will impact on the ability to design jobs which have both variety and challenge. The bulk of the task in processing the Census is coding of responses on the Census form which by its very nature is routine and repetitive. Nevertheless the 1996 Census systems will be designed to balance the need for work variety, cost effectiveness and the timely release of Census data.

Findings

166. The comprehensive reports prepared for the DPC concluded that, overall, the Centre operated well and met its objectives within budget and fundamentally on schedule. However, the reports identified several issues which need to be addressed for the 1996 Census. The recommendations from the reports have guided the development of the 1996 Census.

Conclusions

167. The Evaluation Committee concluded that the DPC reports, prepared by those with intimate knowledge of operations, are valuable for evaluating the Processing phase. In addition, the reports provide the needed corporate

memory given the cyclical time frame for the Census and the turnover of staff between censuses. The Evaluation Committee endorses this method of evaluation.

168. Preparations for the 1996 Census to date confirm that the recommendations of the reports are being taken into account in the planning process. The Evaluation Committee recommends that reports on the operations for the 1996 DPC should be similarly prepared and published as part of the Portfolio Evaluation process.

Output/Dissemination Phase

169. The evaluation process for the output/dissemination phase of the 1991 Census aims to examine the performance of the 1991 Census products and services from both the service delivery and technical perspective, in order to improve their quality, relevance, timeliness, efficiency and effectiveness for the next Census.

Output Planning Group

170. An Output Planning Group consisting of relevant State and Central Office staff was formed to advise the Population Census Program on the development of 1996 Census products and services, priorities and dates for their release, and the nature, content and scope of the 1996 Census user consultation program.

171. As part of the Group's deliberations, the performance of 1991 Census products has been considered. Following this assessment, a preliminary plan for the 1996 Census products and services has been drawn up and will be used as a basis for consultation with users in late 1994 and early 1995. In drawing up this plan, the Group focused on developing Census products and services that will satisfy general user needs, and recommended the use of customised services to address the data needs of individual users. A principal objective for the 1996 Census is to achieve an early and predictable release for the data. Additionally, the Group proposed that the software for the various products have a similar look and feel through the adoption of a standard corporate output data manipulation and mapping software.

Effectiveness of Output Planning

172. Output planning for the 1991 Census commenced in 1988 with a review of both the range of products and services and the platforms used to deliver them. Following the introduction of the Government policy on user pays in 1987, the Census inaugurated a marketing unit to thoroughly assess the user requirements from the 1991 Census. Extensive community consultations led to a complete revamp of both the nature of the 1986 Census products and their content. The publication program was reduced to a series of core publications to meet the continuing needs of the general user community. However, the amount of data available on demand as standard products was expanded substantially. For the first time, electronic dissemination (floppy disk, CDROM, cartridge, magnetic tape) has exceeded hard copy (publications, microfiche, printout) as the prime dissemination medium.

173. Whilst the 1991 Census output planning was on the whole effective, the release dates of some output were later than was planned and announced. This was particularly the case for CDATE91 which, though planned for release in April 1993 was not available until July 1993. The time between the Census and the release of 1991 Census products, with the exception of CDATE91 and Sample File, was the same as or shorter than for the corresponding 1986 Census products as shown in the following table. The 1991 Census products and services are included in Appendix 8.

Product	Expected Release Date	Actual Release Date	Months after 1991 Census	Months after 1986 Census
First Counts	May 1992	Apr 1992	8	n/a
Census Counts	Jan 1993	Jun 1993	22	24
Census Characteristics	Aug 1993	Dec 1993	28	32
Community Profiles	Apr 1993	Apr 1993	20	21
National Matrixes	May 1993	Oct 1993	26	27
Sample File	Jan 1994	Mar 1994	31	27
CDATA	Apr 1993	Jul 1993	23	16
Social Atlases	Dec 1992	Dec 1992	17	30

174. The main reason for the delays in the release of the 1991 Census data was the lack of systems integration and coherence between the input and output processing systems. Assumptions made in the nature of the data handed over from one system to the other were not always correct including, in particular, the assumption that all data provided by the input processing system were within permissible ranges. Although the number of invalid codes was small, each incident had to be investigated thoroughly and resolved to ensure that the occurrence did not represent a major problem with the data. This led to delay in the release of the data.

175. To overcome the delays for the next Census, the following goals have been adopted in the design and development of the processing systems:

- integration in the development of input and output processing and tabulation systems, including the development of common file structures and common amendment and file manipulation facilities, as far as possible, in the input and output components of the systems;
- review of the effectiveness of Table Production Language (TPL) as the standard tabulation software. Alternative packages will be considered;
- introduction of legality editing and, with the assistance of Statistical Services Branch, simplification of editing and imputation systems;
- validation would be undertaken earlier and continuously at the DPC during processing. Specific resources and guidelines for geographic validation will be provided to States; and
- key processing systems will be ready for testing in the 1994 Major Test, and all systems will be in place for the Dress Rehearsal in August 1995.

176. In addition, a 2-phase processing and output strategy will be adopted for 1996 Census data. Having been considered and endorsed by a Census management review committee, the strategy will place priority on processing and disseminating all easy-to-process topics, including the Optical Mark Recognition (OMR) topics. This strategy will satisfy the population estimates requirement for the ABS, because the release of the first phase output is expected to be approximately the same number of months after the Census as when the 1991 Census preliminary data were released. This strategy also makes the release of preliminary 1996 Census data superfluous.

177. In addition, it is planned that the first version of CDATA96 be released in December 1996. This version will contain the complete CDATA96 software, 1996 Census map data and some 1991 Census data to allow users to familiarise themselves with the software prior to the release of 1996 Census data. The version containing the first phase of 1996 Census data is expected to be available by September 1997. The final version of CDATA96 is expected around mid 1998.

178. In addition to the above, scheduled release dates in the 1991 Census were over ambitious; there was no allowance for contingencies and the output resources were inadequate. As Census users planned their work around these dates, delays in the releases by ABS caused considerable inconvenience. User disquiet over scheduling was

the major concern identified in the report from the Wallis Group (see paragraph 209). For the 1996 Census, an early and predictable release of data has been set as the key goal.

179. During consultation with users on output plans, a clear focus on the objective of standard products and services - to satisfy across-the-board and demonstrated data needs - will be maintained. Rather than adding the individual data requirements to standard outputs as in the 1991 Census, which put extra load on validation, individual needs will be met using customised products and services. In addition, adequate resourcing of the output activities will be sought, and realistic dates for release will be set making an allowance for contingencies.

Adequacy of the technical platforms

Tabulation platform and software

180. Almost all Census output products, whether produced from the micro or mainframe, are based around data in tabular format and therefore the tabulation package is at the core of most Census output systems. Prior to the 1991 Census, the suitability of the various technical platforms which could be used to tabulate and deliver Census data was investigated. The Table Production Language (TPL) was assessed as the most suitable. TPL had been successfully used for previous Censuses and although it is a relatively complex end user language, many staff had acquired competency in its use. Furthermore, only a small amount of systems development was required to update 1986 systems and TPL is relatively efficient in its use of computer resources.

181. However, the use of TPL required significant work after the completion of input processing to reformat files in order to allow for the efficient generation of Census tables. With TPL, it is difficult to operate across the hierarchy of the Census files. This required considerable data manipulation to derive and write variables at the household and personal levels to make the input processing files usable by TPL. Whilst this approach had gains in computing efficiency, it caused great loss in flexibility and required complex programs to calculate and store these variables as well as lengthy and involved validation, with attendant delays and potential for error.

182. TPL also restricted greatly what could be made readily available from the Census unit record file either as a standard product or a customised service. If a particular variable had not been derived in the reformatting process, considerable additional work was required to derive it. Generally, in these cases, the Statistical Analysis Software (SAS) would be used rather than TPL. This imposed extra overheads in terms of both staff training and computer costs. With increasing use of Census data in the community the demands for these extra variables have greatly increased.

183. In order to improve the flexibility and ease of use, several key output systems had been designed around a UNIX platform. However, this added an extra complication as data needed to be moved between various platforms with the attendant delays and complications.

184. The decision has already been taken in principle to discontinue the use of TPL as the standard tabulation package for the 1996 Census. Technological advances in storage and processing capabilities now make it feasible to use microcomputers as the tabulation platform. Already, the majority of tabulation work from the 1991 Census is being undertaken on microcomputers. Tabulation packages for microcomputers are currently being assessed for their suitability for Census work. As well as the capacity to handle the large file sizes, the selected software will need to avoid the extensive reformatting (and associated validation work) which was a time consuming process for 1991 and previous Censuses. Users will be able to specify the variables they need for their work. The selected software will also need to be easy to learn to use so that Information Services staff can undertake a wide range of customised matrix work without reference to the Census program.

Dissemination platform and software

185. Although the mainframe continued to be used to produce the statistical data that was used in many 1991 Census products, there was a significant shift to UNIX and microcomputer platforms for dissemination. The most significant new system available to ABS staff in servicing clients was the Profile and Comparison Series system (PCS). This system was implemented on UNIX and was a significant advance on the mainframe based batch system used for 1986. The PCS system allows for the selection of statistical areas and a wide range of associated Census data on either hard copy, floppy disk, cartridge or magnetic tape to suit an individual client's needs. A simple request can be filled in ten minutes by Information Services counter staff rather than the more usual 24 hour turn around time in 1986. The largest number of Census users received their data in formats provided by this system.

186. Users obtaining profile data on floppy disk were also provided, free of charge, with a simple software package CPROFILE which enabled them to select, view, aggregate and export or print the data. Most customer reaction to this innovation has been very positive.

187. In addition, while the mainframe continued to be used initially to produce complex matrix tables, microcomputer software (CMATRIX) was developed and again provided free of charge to allow these tables to be subset and manipulated on a microcomputer by the user. This software was also particularly welcome by users as they could readily access and use large matrix tables without recourse to either considerable clerical work or coming to terms with the complexities of tabulation software.

ABS Database (ABSDB)

188. The ABS intends to integrate data from all its collections and to provide users with a common look and feel software. The Census program will use the ABS Database as its dissemination platform for the 1996 Census and is working to ensure that an equivalent range of software will be available for both ABS staff and external clients.

Cost Efficiency of Data Delivery

Census data access

189. Through the provision and marketing of a range of products and services, the 1991 Census provided the data essential to the decision making of both government and private organisations. This is in accordance with the ABS role as Australia's national statistical service to assist and encourage informed decision making, research and discussion. In particular, data from the 1991 Census provided the key input to the calculation of the official population estimates for electoral and other purposes and used in calculating Commonwealth Financial Assistance Grants to the States and Territories.

190. The ABS continued to make a wide range of Census data freely available to the community in both printed and electronic formats through the library network. In particular, CLIB91, a CDROM product which contains all the standard profiles available in CDATE91 and matrix tables as well as easy to use software to allow the data to be selected, viewed, aggregated and printed, was developed specifically for library use.

191. The ABS has continued to provide a wide range of Census data to the academic community free of charge or at considerably reduced price.

- The complete set of standard tabulations and profiles from the 1991 Census have been made available, free of charge, either as publications or in CLIB91 through the ABS library extension program, in which all tertiary institutions are participants. Several universities are networking CLIB91 for classroom use.
- In conjunction with the joint developers of CDATE91, academic institutions have been able to purchase this product at a considerable discount on the normal retail price.
- Arrangements have been entered into with the Social Science Data Archives (SSDA) at the Australian National University to distribute the 1991 Census Household Sample File to the academic community at a reduced price. The SSDA is also undertaking the distribution of sample files from previous Censuses.
- The ABS has agreed in principle for SSDA to become the repository for standard tables and profiles in electronic format from previous Censuses. SSDA will supply these tables to the academic community at a minimal cost.

192. All other Census products and services were priced in accordance with the Government's user-pays policy.

193. The user-pays policy has allowed the ABS to extend and improve the range of products and services available from the Census and reflects the continued importance of Census data valued by the community. However, while the Census program has met the objective of balancing the costs of production with revenue across the full range of Census products, some products did not perform as well as expected. An example is the Social Atlases series. While they have received very positive user comment (see para 219) and provided considerable favourable ABS coverage in the press during their launch, the Social Atlases for some States have failed to recover their production costs. The product range for the 1996 Census will be reviewed in the light of performance for the 1991 Census.

Price reductions

194. It should be noted that, consistent with the user-pays policy, where savings in the cost of production were made, they were passed to the users through adjustments to the prices. For example, with the introduction of Supercross in the customised matrix service, the minimum price for matrix tables has been reduced by between \$250 - \$500 for State tables and \$250 - \$1,000 for national tables to reflect the lower costs in file storage and

processing infrastructure with the new software. This price adjustment has allowed the access of Census data to an extended range of users.

195. For the 1996 Census, a decision has already been made to use the ABS Database as the dissemination platform for Census data (see para 188). Although the Census Program has yet to confirm the costings, it is expected that the post clean data cost of disseminating both the community service obligation data and customised data will be further reduced.

Market Research on the 1991 Census Output Program

196. Despite the conclusions reached internally about the output/dissemination phase, it was considered that an independent and in-depth, systematic understanding of the reaction of ABS clients to the 1991 Census output program was essential. Accordingly, the Evaluation Committee decided to obtain user views through an independent market research. A firm of marketing consultants, the Wallis Group, was commissioned to conduct an evaluation of the outputs of the 1991 Census through interviews with a sample of ABS clients.

197. The aim of the market research was to obtain information on the general impressions of users of the Census program in respect of:

- the pricing of Census products;
- timeliness;
- customer support; and
- the usefulness and appropriateness of Census products.

Overall Reactions to the Census Program

198. Over the period May to July 1994, interviews were conducted by the Wallis Group with ABS' clients in order to assess the overall reactions to the 1991 Census output program. A total of 150 interviews were conducted with both government and private sector clients across Australia. Face to face interviews were conducted with key 'buying centres' in both Sydney and Melbourne together with telephone interviews with clients in the other capital cities. Key clients in Canberra were also interviewed.

199. Clients in the public and private sector and educational institutions were interviewed. Furthermore, the sample was designed to cover clients of each of the following product ranges:

- CDATA91
- customised matrices;
- mapping products;
- community profiles; and
- thematic publications.

200. The consultant's findings confirmed the impression obtained by ABS staff in their day-to-day interaction with the clients about the performance of the 1991 Census and which the ABS has addressed in its broad objectives for the 1996 Census. The Wallis Group findings are summarised below and the full report is included at Appendix 9.

Key Strengths

201. According to Census clients, the quality of the Census data was the key strength of the 1991 Census output program. By this, the clients meant quality in terms of comprehensiveness, accuracy and reliability.

202. Service delivery, which was defined to include the range of media formats provided by the ABS to fit in with user needs, the presentation of the census products in terms of layout of tables and indexes and their ease of use, was also perceived to be a key strength of the 1991 Census program. Some clients considered that the products were now more professional and polished than previous census products.

203. Other strengths mentioned by ABS' clients included the customer support provided by the ABS and the improvements in the program since 1986. In particular, ABS staff were mentioned as being more responsive and conscious of the need to provide a higher level of service.

Pricing

204. Pricing of electronic products and customised tables was a concern among a small number of clients (one in ten). The consultants concluded that increases in prices since the 1986 Census and the perceived inflexibility of pricing structures appear to be responsible for this concern. Other comments from clients, apparently unaware of Government policy in this respect, sought to question why the ABS had to sell the data when it was collected at the public's expense.

205. The consultants also reported other issues raised by only a small number of clients related to the lack of user friendliness and inflexibility in the software.

206. Reactions to the pricing of Census products varied. There was a very positive reaction from most clients to the pricing of standard publications (84%). However, whilst still positive overall, a lower level of satisfaction was evident with the pricing of electronic products (69%). The complexity of the CDATA91 software and problems experienced in using the product appears to have led to the perception that this product does not present value for money, in addition, many clients appear to think that the high price was due to the inclusion of software facilities.

207. A similar level of satisfaction was obtained for the pricing of customised tables (63%). However, the inconsistency of prices between customised tables and other Census products was of concern to some clients. The consultants also reported some indication that pricing levels and structures were preventing some users from accessing these tables.

208. The consultants noted that while pricing is, and is likely to remain, a somewhat contentious issue, clients have not raised it as a major weakness of the 1991 Census output program. However, they concluded that reactions to the pricing of electronic products and customised tables appear to indicate that a review of prices for these products is appropriate.

209. Finally, reactions to pricing were generally consistent between government and private sector clients. While concerns over pricing remain marginally more evident in the government sector, the level of price sensitivity appears to have decreased since the initial stages of the introduction of the user pays policy.

Timeliness

210. The two key areas in which clients were least satisfied with the ABS and were the cause of some irritation were:

- the timeliness in delivering products from the Census. Many clients reported disappointment at the time taken to release products from the Census and in some cases questioned the relevance of the data as a result. The consultants suggested that, with very few clients demonstrating an understanding of the processes involved, educating clients on the processes involved in releasing these products appears desirable. In addition, any changes possible to the processing of the data which will lead to its earlier release should also be pursued; and
- the failure to meet promised delivery schedules for ABS products. The consultants concluded that problems in this area have the potential to quickly alienate clients. The consultants considered that this aspect may warrant further attention and a more realistic and achievable set of release dates are likely to significantly reduce the level of dissatisfaction on this issue.

211. At the same time, not all reactions to the issue of timeliness were negative. ABS' response to customised requests for data received a very positive response.

Customer Support

212. Clients were positive in regard to the:

- level of knowledge of ABS Census staff (68%);
- helpfulness of the staff (67%); and
- The ability to get to the right person (60%).

213. There is evidence that much of this satisfaction is generated through existing networks clients have with the ABS. However, there was some criticism of the quality of the training provided by ABS and the provision of technical assistance and after sales support for Census products. Most of this criticism came from experiences with CDATA91 and involved the amount of training provided, the quality of the course content and the ability of the trainers.

214. The three hour course provided was not considered sufficient by some clients due to the complexity of the CDATA91 product. Some comments provided indicated that training needed to be one or two full days. Criticism was also levelled at the content of the training where it was not considered to be at the right level, with complaints from a client that manuals were 'in draft form and next to useless'. The ability of individual trainers was also mentioned by some clients who considered that some lacked the technical knowledge and professionalism required to conduct training courses.

215. The consultants considered that comments raised by clients suggest that the training provided for products probably requires some attention. In particular, training staff should be skilled in the use of the product and possess the basic teaching techniques required to impart the knowledge. Additionally, courses needed to be targeted at the particular user.

Reactions to the Products

216. The consultants also assessed product utility by examining the appropriateness of the products (for example, the classifications used, their quality and reliability and the range of information about available products), and the ease of use of products including the presentation quality. Clients considered that ABS Census products:

- were a highly relevant data source (82%);
- used appropriate classifications (73%); and
- were of high quality (63%).

217. Of the concerns which were raised, clients of matrix tables reported a slightly lower level of satisfaction which may result from a need for more finely disaggregated data than is possible, given the ABS requirements to ensure confidentiality.

218. Some minor concerns related to difficulties in matching postcode boundaries on the digitised boundary product and missing postcodes.

Information about Census Products

219. While many clients considered that there was adequate information about the Census products, the consultants found that those clients obtaining data for the first time were at some disadvantage, with limited access to information of this type. Private sector clients were more likely to be dissatisfied; 56 per cent against 69 per cent for the government sector. The consultants considered that some opportunity exists for products such as Census Update to take a higher profile to better inform clients of the products available. Some respondents wanted Census Update produced more frequently than quarterly.

Ease of use

220. Clients considered that the hard copy publications from the Census, in particular publications such as the Social Atlases, were easy to use. On the other hand, some clients considered electronic products not to be as easy to use, an attitude which appears most likely to relate to:

- system difficulties with CDATA91;
- perceived inflexibility with accompanying software; and
- inadequacies of the training to use electronic products.

221. The results suggest that there appears to be a need to look at improving the user friendliness of electronic products.

222. Most clients were satisfied with the presentation of the 1991 Census products (76%). The consultants also reported that the mapping facilities with CDATA91 and the Social Atlases have clearly enhanced users perceptions.

223. Finally, the range of media formats in which census products are available is typically considered to be a positive attribute (63%). Critical comments related to difficulties in obtaining digitised boundary data in a range of supposedly 'industry standard GIS systems' and in importing data into existing data analysis systems.

Consultants' Conclusion

224. The consultants concluded that the Census appears to be an essential data source for most clients. The comprehensiveness, accuracy and breadth of the data is clearly its key strength. Further, clients have responded positively toward the improved level of delivery of this data, in particular to the range of formats in which the data is now provided.

225. Timeliness is the key concern among clients, however. Adherence to prescribed schedules for the release of products, together with educating clients on the complexities of the processes will move some way to reducing the level of irritation that currently exists.

Findings

226. The Evaluation Committee found that, on the whole, the 1991 Census output and dissemination phase was effective. As confirmed by the findings of market research, the strengths of this phase were the quality of Census data, service delivery and customer support. The principal weaknesses of this phase were timeliness in releasing the data and the inability of the Census Program to adhere to the publicised release dates. The main reasons for these weaknesses were lack of system coherence and integration as well as unrealistic timetabling. Some improvement is also needed in the training offered to support electronic products. The Evaluation Committee was satisfied that the necessary actions had already been taken to address these issues for the 1996 Census.

227. The Evaluation Committee was satisfied that the Census fulfilled its community service obligations by making available, free of charge, Census statistics through the media, and through libraries located throughout Australia. Except for a few products, the Census recovered the cost of producing products tailored to the needs of users, and provided a net return to the ABS on commercial products like CDATE91.

228. The Evaluation Committee also found that considerable effort has been made to improve the cost efficiency of the service provided to clients by addressing both the hardware and software platforms to be used for 1996 Census products. These improvements will allow reductions in costs of products thereby making them accessible to a wider audience.

Conclusions

229. The Evaluation Committee concluded that the Census Program has already identified and is addressing most of the problem areas identified. This indicates the existence of a good system of client feedback which provides the Census Program with ongoing comments on the suitability of its products and services, and a willingness on the part of the Census Program to critically review its output/dissemination phase with a view to providing a better service to its clients.

EVALUATION PHASE

Evaluation papers

230. While evaluation of Census data takes place at several stages of the Census process, more formal evaluations on 1991 Census data quality and procedures are undertaken by specialists in the Evaluation Group.

231. A total of seven Working Papers have been circulated widely within the ABS. They have been advertised in Census Update and are available on request to interested outside users. The principal conclusions of these papers are summarised below.

- (a) 93/1 "A study of the performance of sequencing instructions in the 1991 Census" - concluded respondents to a self-enumeration questionnaire take cues from many aspects of the form other than the instructions. It is thus not always possible to correct reporting problems by simply adding or revising instructions.
- (b) 93/2 "Comparison of self coded and write-in responses: July 1992 Test" - compares the effects on responses obtained from forms with pre-listed items (for data capture by OMR) and those without a list

(for data capture by OCR), and found that the responses of a number of questions may be subject to a 'list' effect.

- (c) 93/3 "1991 Census data quality: A study of posted-in forms" - shows that the data quality of posted in forms is lower than that of collected forms for traditionally sensitive items. In addition, it points out that "promises to mail in" are not always fulfilled as only 70 per cent of the promised forms were actually received by the ABS.
- (d) 93/4 "1991 PES (Post Enumeration Survey): Comparison of Census and PES responses" - concludes that, as there are only minor discrepancies between the two collections for variables such as age and country of birth, there is reasonably high confidence in the quality of these statistics. In the case of sensitive items such as marital status and Aboriginal and Torres Strait Islander identification, the differences appear greater, but it is far from clear how the different methods of collection - especially the interviewer/respondent interface - affected the answers given.
- (e) 93/5 "1991 Census Public Communications: A Marketing Approach" - applies marketing concepts to public communications associated with the 1991 Census, and evaluates the effectiveness of Census communications.
- (f) 93/6 "1991 Census Data Quality: Aboriginal and Torres Strait Islander Counts" - considers a number of factors which could have led to the observed increase in the number of Indigenous people recorded in the 1991 Census. It notes reasonable stability in the counts for Aboriginal people, but considerable fluctuations in the number of Torres Strait Islanders.
- (g) 94/1 "1991 Census Data Quality: Labour Force Status" - concludes that, given the complexity of the sequencing instructions for the labour force questions in the Census, the quality of responses appears satisfactory. Although comparison with the Labour Force Survey data showed reasonably close correspondence in the participation rates, there were larger differences between the unemployment rates. Some of this difference could be reduced by the addition in the 1996 Census of an extra question on availability to start work. However, the others which reflect (unquantifiable) differences induced by the different collection methodologies will likely remain.

232. Other work to be undertaken before completion of the program by the Evaluation Group in 1994 includes assessing the quality of education and housing data. These evaluations are important not only in informing users about 1991 Census data quality, but also in the planning and development of procedures for future censuses.

Quality of Census Data

233. The quality of Census data released is crucial to the continued trust that both public and private sector users have in ABS releases. As compared with the 1986 Census, because of the increased attention to validation procedures and data quality, far fewer tables had to be replaced in the 1991 Census due to technical problems. In several ways, the accuracy of the 1991 data was higher than 1986. In improving the accuracy of the data, there are several aspects for the 1991 Census collection worthy of mention.

Indigenous Populations

234. It has long been recognised that it is not possible to count all of Australia's Indigenous population living in traditional remote communities using the same methods as other groups in Australian society. The ABS has developed a strategy using special forms referred to as Remote Area Interview Forms (RAIFs) to enumerate these people. The RAIF approach is based on the use of interviewers rather than self enumeration, access to lists to identify and locate Indigenous communities and employing the services of people knowledgeable about, and acceptable to, the community to do the collection.

235. The views of staff involved in the collection were consolidated in a qualitative assessment of the RAIF count by the Evaluation Group in Central Office. The 1991 Census is regarded as probably the best collection of information from Indigenous people living in traditional communities (or similar living arrangements).

Data Problems - Basic Community Profiles

236. Almost half a year after the 1991 Census Basic Community Profiles were released to the public, an anomaly in the indigenous dwelling data was reported to the ABS by a user. Subsequent investigation discovered that it was caused by an erroneous procedure in coding the data, during input processing, on the RAIF. Because the error occurred at the CD level, many products and services from the 1991 Census produced for NT, SA, WA and QLD that used the RAIF for enumerating the Indigenous population in the Census were affected.

The effect of the error was that data for the Indigenous population (collected on RAIF) living in separate houses was published as living in improvised housing, and vice versa. Although the impact of the error for SA, WA and Qld was small (less than 0.5 percentage points of the affected dwellings at the maximum), the impact for NT was comparatively greater. At the CD level, however, the impact was naturally quite significant for the indigenous communities.

237. The error was caused by an incorrect assumption made during input processing program development, that the order of the types of housing category on the RAIF was identical with that on the Census form proper. It was established that this error was confined to the dwelling data. The 1996 Census process will ensure that better integration of form design and processing system design would occur.

Data Problems - Non Private Dwelling Types

238. As the Census is an important source of characteristics of inpatients in health (and other) institutions, the data has been listed as high priority in the National Health Information Agreement. However, concerns about the quality of coding of health institutions in the 1991 Census led to a decision to cancel the planned publication on these people.

239. In the 1986 Census, types of non-private dwelling were coded at the Data Processing Centre using specially constructed indexes. In the 1991 Census, a change in the procedure saw the coding of these types carried out exclusively by the special collector. Due to the inability of all special collectors to uniquely code the establishments they were enumerating at the Census, there was a significant increase in the number of 'not stated' and 'others', leading to substantial under-recording of health and other institutions in the Census.

240. For the 1996 Census, checking and coding of types of non-private dwelling at the Data Processing Centre will be re-instituted.

Random perturbation

241. For the last two censuses, Australia used random perturbation procedures to protect the confidentiality of individuals in statistical tables. However, the random perturbation procedures adopted in the 1991 Census for the community profiles attracted a lot of criticisms from many quarters, including academics and demographers.

242. In order to overcome the criticism on non-additivity of the 1986 Census tables across Census geography, the ABS proposed to address the issue by deriving the Statistical Local Area (SLA) and higher tables through aggregating the Collection District level tables to which random perturbation procedures were independently applied. The proposal was supported by a State/Commonwealth Population Workshop held in 1989 which also suggested the introduction of a 'balancing item' - defined as the difference between the perturbed and true totals - to enable the user to be informed of the accuracy of the perturbed figures.

243. This endorsement was obtained having regard to the well known statistical law of large numbers that the probability of having perturbed figures significantly different from their true values at the SLA and higher level tables would be very small. However, what was not appreciated at the time was that, even with a small probability, when large numbers of small cells are involved as in the case of the 1991 Census community profiles, there would still be a sizeable number of cells whose values were distinctly different from the true values, although the difference in most cases was less than 0.2 per cent. The size of these perturbation errors became apparent when users inspected the value of the balancing item.

244. In light of the concerns expressed, a critical review of the procedures to be adopted for the 1996 Census is being undertaken. It is very clear from the feedback received that users not only require additivity but also data consistency across tables, i.e. there is one and only one figure for one Census characteristic, which calls for some form of controlled perturbation in the tables to ensure that the marginal (one-dimensional) distributions are not changed by the procedure. Whether such a desirable procedure exists will require extensive research.

Findings

245. The Evaluation Committee also found that a satisfactory program was in place to systematically review the quality of Census data, and noted that the quality of the 1991 Census was considerably higher than that of the 1986 Census.

Conclusions

246. The Evaluation Committee considered that continued attention should be given to providing a more satisfactory system of random perturbation and to improving the enumeration of the Indigenous population.

MANAGEMENT STRUCTURE AND PROCESSES FOR THE CENSUS

247. In view of the size of the Census and the diverse areas of the ABS that may be affected by decisions taken on the Census, a structure to manage and co-ordinate Census issues affecting other areas of the ABS is put in place. This structure is in the form of a series of committees established to address specific aspects of the Census together with an umbrella steering group set up to review the strategic directions being taken on issues which cut across or which impact on other areas of the ABS and to resolve concerns.

248. The specific committees are:

- Social Statistics Strategy Group;
- Output Planning Group;
- Census Finance Group;
- Data Capture and Processing Management Review Committee;
- 1996 Census Mapping Project Management Review Committee; and
- Management Review Committee on the Collection Operations Management System.

249. Details of the membership and Terms of Reference of these committees are given in Appendix 7.

250. Additionally, the Census area works with the New Products Development Group, the Marketing Group, the Pricing Committee and the Business Development Unit on issues relating to the design and marketing of new and potential Census products and major existing products.

251. Furthermore, planning of all the different phases of the Census is oversighted by ASAC.

Findings

252. Because the Census affects many different areas of the ABS, the Committee found it vital for the Census to ensure that all stakeholders are consulted before decisions are taken. The Committee also found that the Committee structure provides an effective forum for such consultation and decision making while allowing the project managers to manage. In particular, the Committee found that ASAC's oversight of the Census not only provides another opportunity for external scrutiny of the Census, but also ensures that the statistical priorities are appropriate and procedures effective.

Conclusions

253. Given the many Census decisions affecting other areas of the ABS, the Evaluation Committee concluded that a committee structure is needed to advise the Census Program and is satisfied with the existing arrangements.

GLOSSARY OF ACRONYMS

ABS	Australian Bureau of Statistics
ABSDB	Australian Bureau of Statistics Database
AC	Automatic Coding
AEM	Australian Estate Management
AO	Order of Australia
ASAC	Australian Statistics Advisory Council
AUSLIG	Australian Surveying and Land Information Group
CD	Collection District
CMU	Census Management Unit
COMS	Collection Operation Management System
CPSU	Community and Public Sector Union
DM	Divisional Manager
DPC	Data Processing Centre
FM	Field Manager
GIS	Geographic Information System
GDP	Gross Domestic Product
IDC	Interdepartmental Committee
OCR	Optical Character Recognition
OHAS	Occupational Health and Safety
OMR	Optical Mark Recognition
PC	Personal computer
PCS	Profile and Comparison Series
PEP	Portfolio Evaluation Plan
PES	Post Enumeration Survey
SAS	Statistical Analysis Software
SIN	Social Insurance Number
SEIFA	Socio-Economic Indicators for Areas
SSDA	Social Sciences Data Archives
TPL	Table Production Language
UK	United Kingdom

GLOSSARY OF TERMS

Aboriginal and Torres Strait Islander enumeration

This is a method developed for the accurate enumeration of the Aboriginal and Torres Strait Islander populations. The method relies on the use of indigenous interviewers and a form that is specially design for the enumeration. The method was developed in consultation with organisations concerned with Aboriginal and Torres Strait Islander services.

Automatic Coding (AC)

This describes the process which utilises the computer to automatically search the indexes for a match with the responses on the form and allocate codes to these responses, which will then be written onto the computer file. The responses could either be keyed in or captured by optical character recognition (OCR).

Collection District (CD)

The census collection district (CD) is the smallest geographic area defined in the Australian Standard Geographical Classification (ASGC). It is designed for use in the census as the smallest unit for the collection and dissemination of data. It serves as the basic building block in the ASGC, and can be aggregated to form larger areas for the dissemination of data. CDs are reviewed before each census and, subject to strict criteria, may be redefined, new CDs may also be created.

Computer Assisted Coding (CAC)

This describes the process involving the coder to enter the responses on the form, matching the responses by the computer with the appropriate index and presenting a list of candidate matches for selection by the operator, before the codes are written onto the computer file. The 1991 Census main processing system used computer assisted coding (CAC) for write-in responses or responses that were failed to be captured by optical mark recognition (OMR).

CD-ROM products

Compact disk read-only-memory (CD-ROM) disks have a large storage capacity and allow users to utilise micro-computers for the manipulation and analysis of large quantities of data. The 1991 Census products on CD-ROM include CDATA, CTAB and CLIB.

Data Processing Centre (DPC)

The data processing centre (DPC) is a centralised location specifically set up for the capture and coding of all the responses on the forms from all States and Territories.

Digital Map Data

Digital map data are the latitudes and longitudes of geographic features. These data are used by Geographic Information Systems to display images of the features on the computer screen for mapping, presentation and analysis. Digital map data for statistical boundaries and topography are provided in certain electronic census output eg CDATA.

Dress Rehearsal

The Dress Rehearsal for the 1996 Census, which will take place in August 1995, will be a complete test of all systems and procedures designed for the 1996 Census.

Dwellings/non-private dwellings

A dwelling is a building or structure in which people live. This can be a house, a block of flats, a caravan or houseboat, a tent, etc. For census purposes, dwellings are classified into distinct groups:

- occupied private dwellings. These are premises occupied by a household on census night;

- unoccupied private dwellings. These are habitable structures built for living purposes which are unoccupied at the time of the census;
- non-private dwellings are premises not primarily built for residential or long term residential purposes, but used as such on Census night. They also include establishments for the aged, boarding houses, prisons etc.

Household

A household is a group of people who usually reside and eat together in a private dwelling. A household is classified as a family household, a group household or a lone person household, or a household containing visitors only (e.g. in a holiday home). There may be more than one household in a dwelling.

Hierarchy of census files

This refers to the way Census data are stored in computer files, which comprises households, families within households and persons within families.

Imputation

If data is not provided on the Census form and could not be determined from other data on the form, the missing data is estimated on the basis of distributions of such data obtained from previous censuses. Age, sex, marital status and State of usual residence are examples where imputation was used for missing data in the 1991 Census.

Improvised housing

This is defined to include sheds, tents, etc. that were occupied on census night.

Indexes (input processing)

Indexes are lists of most common responses on Census forms developed for use with computer assisted coding or automatic coding to accurately and efficiently assign codes to responses for Census output purposes.

Legality editing

Legality editing utilises a computer program that automatically checks for permissible code ranges within responses.

Major Test

The Major Test of the 1996 Census program was conducted in August 1994. Testing of the new census mapping system and form design were the major objectives.

Optical Mark Recognition (OMR)

This technology reads marks on the Census form and uses a program to assign codes to the marks for output purposes. The use of this technology in the 1991 Census greatly reduced the keyboard load for the write-in response.

Optical Character Recognition (OCR)

This technology reads both marks and write-in responses on the Census form and uses a program to assign codes to these responses for Census output purposes.

Random perturbation

A technique to ensure that cells with small values are not released in the Census tables, which may otherwise lead to the identification of individuals, by using unbiased and random adjustments to the cell values.

Remote area interview forms (RAIFs)

Forms designed for use in the Aboriginal and Torres Strait Islander enumeration strategy.

Self-enumeration

The method of using householders to fill in the Census forms with limited help from the Census collector.

Self-coding

This refers to the marking of preprinted boxes on the Census form by the householders themselves.

Sequencing instructions

Instructions used to direct the person to the next appropriate question based on the person's answer to a question. The next question may not be the question following the numerical order. Sequencing instructions are needed because some questions on the census form do not apply to all persons in the dwelling.

Statistical local area (SLA)

Statistical local areas (SLAs) are defined in the Australian Standard Geographical Classification (ASGC) and consist of one or more collection districts (CDs). They can be based on legal local government areas (LGAs), or parts thereof, or any unincorporated area. They cover, in aggregate, the whole of Australia.

Small area data

This typically refers to the data at the collection district (CD) level and their aggregations thereof. The census is one of the major sources for small area data.

Post Enumeration Survey (PES)

A sample survey of about 40,000 households chosen randomly and conducted 3 weeks after the census night to estimate the extent of over and undercount in the census.

Validation

The process of checking the validity of data by examining its internal consistency and consistency with data from external sources.

2-phase strategy

A strategy to make available data for Census users early by processing and releasing the data from the 1996 Census in two stages. Most census data will be available in the first phase of release. However, the more complex variables such as labour force status which are derived from a number of census questions, occupation and industry which require Computer Assisted Coding (CAC) will be released in the second phase release.

PRODUCT DESCRIPTIONS

Census Counts for Small Areas

This publication series contains the final population and dwelling counts for the 1991 Census at statistical local area level, local government area and urban centre/locality levels. Where applicable, data from the 1986 Census is provided. Maps are included. There is a separate publication for each State and Territory.

Census Characteristics of State/Territory/Australia

This publication series contains a comprehensive set of detailed census characteristics for both the State/Territory and the capital city of that State/Territory. There is a separate publication for each State and Territory.

Census Update

This is a quarterly newsletter designed to keep Census data users informed of developments in products and services.

Community Profiles

Community Profiles comprise sets of tables based on key census characteristics of persons, families and dwellings. There are a number of Profiles available, focusing different populations eg the Working population or other aspects eg comparison with past censuses. Profiles can be produced for a range of geographic areas.

CDATA91

CDATA91 is a CD-ROM product that allows desktop analysis of 1991 Census data for small areas. It contains Community Profiles data, digitised statistical boundaries and basic digitised topographic data, and mapping, analysis and presentation software.

CLIB91

CLIB91 is a CD-ROM based product developed specifically and given free of charge to libraries on the Library Extension Program. It includes Community Profiles, with CPROFILE software, National and State Matrixes, with CMATRIX software, and the Comparison Series.

Comparison Series

These are census counts of the population for each category of the Census output classification by State, capital city and statistical region.

CMATRIX

CMATRIX software allows users to display, aggregate and print matrix data.

CPROFILE

CPROFILE software allows users to access, display and print Community Profiles data.

CTAB91

CTAB91 is a CD-ROM product that contains all the standard matrix tables from the 1991 Census and software which allows access, display, printing, aggregating and exporting of the data.

Digitised boundaries

These are provided for all standard geographic areas for which data are available. They are available in a range of electronic formats for use in desktop mapping packages and Geographic Information Systems (GIS).

First Counts for Statistical Local Areas

This publication series contains the preliminary population and dwelling counts for the 1991 Census at statistical local area level. There is a separate publication for each State and Territory.

Household Sample File

The 1991 Census Household Sample File is an electronic file containing the Census characteristics of a one per cent sample of private households and associated persons, and a one per cent sample of persons in non-private dwellings.

National Matrixes

These matrixes provide detailed cross-classified data on a wide range of variables. Most are available at Australia level with State breakdowns.

Preliminary customised matrix service

Customised matrixes containing preliminary data were available to clients for the 1991 Census.

Profile and Comparison System (PCS)

This is an on-demand system that provides access to the Community Profiles and Comparison Series data for dissemination purposes.

Social atlases

The Atlases contain maps of data on population, housing education and other census characteristics, etc. for each capital city.

SUPERCROSS

A micro-tabulation system used for producing customised matrixes for both internal and external clients.

APPENDICES

1. Report of the Interdepartmental Committee on the Review of the Census of Population and Housing
2. Composition of Census Evaluation Steering Committee
3. Terms of Reference for Census Evaluation
4. List of Working Papers to Evaluate Census Data Quality and Procedures
5. Recommendations from the National Conference on the 1991 Census Collection Operation
6. Recommendations from the 1991 Census Data Processing Centre
7. ABS Management Committees to Address Specific Census Issues
8. 1991 Census Products and Services
9. Market Research Report Commissioned by the ABS on 1991 Census Products and Services

**REPORT OF THE INTERDEPARTMENTAL
COMMITTEE ON THE REVIEW OF THE CENSUS
OF POPULATION AND HOUSING
DECEMBER 1993**

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REPORT OF THE INTERDEPARTMENTAL COMMITTEE ON THE REVIEW OF THE CENSUS OF POPULATION AND HOUSING

EXECUTIVE SUMMARY

In the context of preparing the 1993-94 budget the Government established an Interdepartmental Committee (IDC) to consider options for reducing the cost of the Census of Population and Housing, in consultation with the Australian Statistics Advisory Council (ASAC) and other interested parties.

A full content - full enumeration Census (i.e. every question directed to every household) has been held at five yearly intervals since 1961.

Census data provides the cornerstone for a wide range of economic and social statistics and its frequency is aligned with a number of other institutional arrangements.

Among countries we frequently compare ourselves with, Canada and New Zealand are the only others that conduct censuses five yearly. As well, by international standards the Australian Census is comprehensive in terms of the extent of enumeration. However, Census information dates more rapidly in Australia because of its high rate of population growth and gross migration flows.

The 1996 Census is estimated to cost \$135 million, or \$27 million per year, averaged over a five year period (in 1993-94 dollars). While deferring the 1996 Census by, say 2 years, would save \$62.5 million net in 1996-97, viewed in a medium term context the average annual savings are more modest (see below).

Almost half the total cost is attributable to collection activities ('knocking on doors') so the marginal savings from reducing the number of questions on the Census form are modest. The report outlines the rationale for maintaining existing collection arrangements.

The Committee identified two ways to change policy to reduce the cost of the Census:

- conducting censuses less frequently; and/or
- reducing the content or extent of the Census.

The savings associated with the options evaluated are set out in the table below.

<i>Census Type</i>	<i>Annual Average Cost (\$m)(a)</i>	<i>Annual Gross Savings (\$m)(a)(b)</i>
5 year frequency		
Full content — full enumeration	27.0	Nil
Alternate Reduced content — full content	24.8	2.2(c)
Long/short form	25.0	2.0(d)
7 year frequency(e)	19.0	8.0
10 year frequency(e)	13.5	13.5
Notes:		
(a) All costs/savings are in 1993/94 dollars.		
(b) The savings referred to are gross, eg they have not allowed for additional costs to the ABS of increasing the sample size of intercensal household surveys.		
(c) \$22m savings every 10 years.		
(d) \$10m saving every 5 years.		
(e) Full content — full enumeration Census.		

The Committee concluded that it would not be prudent to reduce the **frequency of the Census** because of:

- the increased risk of a successful challenge under section 24 of the Constitution relating to the allocation of House of Representative seats among States;
- the implications of reduced timeliness of data used to distribute Financial Assistance Grants to States/Territories and used in managing for example, employment, education, regional and social security programs; and
- the additional costs to the Australian Bureau of Statistics (ABS) through the need to increase the sample size to maintain the accuracy of intercensal household surveys such as the labour force survey.

The Committee evaluated carefully two options to **reduce the content and coverage of the Census**:

- reduced content (ie number of questions) in 1996 and full content in 2001 and alternately thereafter; and
- full content in 1996 and long/short form in 2001 and thereafter (ie every household answers a short list of questions and one in three answer additional questions - a long form).

Both options would reduce the timeliness or accuracy of the same topics, namely: occupation, industry, qualifications, journey to work and usual address five years ago. These topics were selected because they were amongst the most costly to process.

Again the Committee concluded that it would not be prudent to adopt either of these options, having regard to:

- the modest gross savings involved; and
- the particular relevance of these topics in designing and managing labour market and education and training policies and in urban planning, all areas where the utility of accurate information, including in respect of small areas, is high and may well increase.

The Committee's recommendations were supported by ASAC and other interested parties consulted.

The Committee also recommended that in future, the full cost of a full content-full enumeration Census be included as existing policy in the Forward Estimates. This approach will not preclude the Department of Finance scrutinising the cost efficiency of the Census when the ABS prepares for the Treasurer the usual submission to Cabinet on the precise nature, content and funding of each Census.

In summary, the Committee has concluded that:

- it would not be prudent to reduce the frequency of the Census nor to reduce the content or extent of the Census; and
- it would be desirable to amend the treatment of the Census under the Forward Estimates of Outlays.

Accordingly, the Committee recommends:

- supported by ASAC, the continuation of existing policy for a full content - full enumeration Census in 1996 and each five years thereafter; and
- the full cost of a full content - full enumeration Census be treated as existing policy in the Forward Estimates of Outlays.

INTRODUCTION

During the 1993-94 budget process, the Government decided to review the frequency of the Census of Population and Housing. The Government further decided that the review should consult widely with users of the Census.

The review was undertaken by an Interdepartmental Committee in consultation with the Australian Statistics Advisory Council (ASAC) and other interested parties. The membership and terms of reference for the Committee, as well as its review and consultation processes are described in Attachment A.

The initial sections of this report describe existing Census characteristics and funding arrangements, place them in international context and outline some reasons why a relatively frequent and comprehensive census may be required in Australia. The report then identifies various alternative Census arrangements and evaluates in some detail, the savings and their implications for the reduced availability and quality of Census data of two of those options, namely, a reduced content Census and a long/short form Census.

CURRENT ARRANGEMENTS

The Census is a cornerstone of the Australian Social Statistics system. It provides a reliable basis for the continued estimation of the population of the States/Territories and small geographic areas and satisfies an extensive range of statistical needs.

The Census provides the only means of collecting information for small areas and small target groups on detailed matters. Such data are seen by users at all levels of Government, businesses and community groups as essential to ensure the efficient provision of services and programs; the planning of services, facilities and infrastructure; and the effective formulation of many policies and programs.

In addition, an extensive range of Australian Bureau of Statistics (ABS) intercensal household surveys (eg the monthly labour force survey, and the national surveys of health; income and expenditure; housing; crime victims and time use) is dependent upon Census data.

Since 1961 a full content-full enumeration Census has been held every 5 years. This frequency has been specified in an amendment to the *Census and Statistics Act 1905* enacted in 1977 following a High Court decision and an Opinion by the Attorney-General and the Solicitor-General.

The content for each Census is adjusted to reflect the user requirements and every question on the Census form is asked of every eligible household and individual in Australia. A summary of the topics planned for inclusion in the 1996 Census is included in column one of Attachment B.

The cost of the Census is usually spread over a 7 year period with the bulk required in the financial year that the collection is conducted. The provisional estimate for a full content-full enumeration Census in 1996, for which the ABS started to incur expenditure in 1992-93, is about \$135m in 1993-94 prices, distributed as follows:

1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
\$1.3m	\$2.9m	\$11.0m	\$20.5m	\$73.5m	\$23.2m	\$2.6m

Some \$65 million or 48 per cent of the total cost is attributable to field collection activities which are, to a large extent, independent of the content of the Census.

A disaggregation of the cost by item is as follows:

Item	\$ millions	%
Collection costs		
Salaries	4.8	3.5
Payments to Agents	38.9	28.8
Mapping, printing and other	21.4	15.8
<i>Sub-total</i>	<i>65.1</i>	<i>48.1</i>
Input processing costs		
Salaries	25.3	18.7
Property and operating expenses	14.4	10.6
Plant and Equipment	7.4	5.5
Other	11.5	8.5
<i>Sub-total</i>	<i>58.6</i>	<i>43.3</i>
Other costs		
Salaries	6.3	4.7
Other	5.3	3.9
<i>Sub-total</i>	<i>11.6</i>	<i>8.6</i>
Total	135.3	100.0

TREATMENT OF CENSUS IN BUDGET CONTEXT

The ABS undertakes a public consultation process approximately three and a half years prior to each Census. After tabling the results of this consultation for consideration by ASAC, the ABS prepares for the Treasurer a submission to Cabinet on the nature, content and funding of the Census.

The preparation of this submission allows an opportunity for the Department of Finance to scrutinise the efficiency of the ABS in managing the Census and to assess the revenue target attributable to the Census. Since the introduction of the user pays principle in late 1987, the ABS is required to meet a revenue target negotiated annually with the Department of Finance. For 1993-94, the revenue target is \$6.89 million, which compares with \$3 million for 1988-89. In negotiating the annual revenue target, account is taken of the revenue from all standard products including Census products.

Under current arrangements, notwithstanding the legislative requirement for the Census, the cost is not incorporated in the Forward Estimates of Outlays as existing policy until the Government has agreed to the Treasurer's submission.

Treating the Census as new policy invariably encourages some sort of review of the timing, content and extent of the Census. Even so, Governments have consistently decided to conduct a full content — full enumeration Census every five years since 1961.

The Committee recommends that the current arrangements be amended. In particular, it recommends that the best estimate of the total cost of a full content - full enumeration Census (\$135 million for a 1996 Census) be included as existing policy in the Forward Estimates. This will not preclude the opportunity for the Department of Finance to scrutinise the cost efficiency of the Census with the clear expectation that, through efficiencies, the real level of resources applied to the Census, adjusted to take account of inflation, population growth and changes in government policy on funding - such as the charging of superannuation expenses to programs, would reduce over time.

CENSUS EFFICIENCY GAINS

Each Census of Population and Housing is evaluated through a number of mechanisms with a view to improving the next Census. A listing of the major ex-post evaluations of the 1991 Census and the reviews undertaken and planned for the next Census are summarised in Attachment C. The outcomes of these evaluations are summarised below.

Use of Technology in the Processing Phase

Some 43 per cent of the cost of conducting a Census is attributable to data processing and related activities. For the 1991 Census, the ABS introduced the following efficiency measures:

- maximising the use of self-coding through the use of tick boxes, after tests confirmed the statistical feasibility of respondents marking directly on Optical Mark Recognition (OMR)-based Census forms;
- OMR technology to capture the self-coded data through scanning of the forms; and
- computer assisted coding (CAC) to facilitate the efficient coding of write-in data on Census forms.

Compared to the limited use of self-coding, keying in of data and clerical coding of the data for the 1986 Census, the ABS estimated the above measures gave a saving of \$5 million, ie some 4.5 per cent of the Census budget.

The ABS's investigation into the feasibility of adopting Optical Character Recognition (OCR) technology and Automatic Coding (AC) led to its decision in 1992 not to adopt them for the 1996 Census, for the following reasons:

- as the form design requirements of OCR were considered less acceptable to the public than the requirements of OMR, there was concern that moving to the new technology for the 1996 Census would adversely affect the quality of the Census data; and
- the extensive computer system redevelopments required for OCR and AC systems would not permit enough attention being given to addressing the timeliness of Census output, which is one of the principal goals for the next Census.

However, the Census processing systems for the 1996 Census are being modified to substantially improve the utility of data and, to this extent, an increase in the cost effectiveness of the Census.

Collection Phase

As the collection phase comprises some 48 per cent of the cost of conducting a Census, increased productivity in the field collection work and the continued cost effectiveness of the current methodology of dropping off and picking up questionnaires from every dwelling has been subjected to a number of studies over the years.

For example, in considering the design of the 1991 Census, an investigation was undertaken into the feasibility of adopting the Canadian system of collector drop-off and householders mailing back completed questionnaires. (The US approach of mail-out and mail-back cannot be implemented as Australia does not have a mailing register.) That investigation concluded that potential savings would only be possible if the mail back rate before follow up action was taken was greater than 80 per cent. While no test has been undertaken within an Australian Census framework, experience from other ABS mail back surveys suggest the rate could be anything between 37 per cent to 78 per cent. If the required response rate was not achieved, the collection costs would be greater than the current approach, as this will necessitate considerable payments to agents for follow up action in addition to the cost of the mail-back process. Since that investigation, there has been no indication that such a high response rate is achievable for the 1996 Census. For example, the 1991 Canadian Census just achieved the required rate and the 1990 Census of the United States of 65 per cent was much lower than its 1980 Census rate of 75 per cent.

Within the existing Census budget, the ABS is developing a computerised collection management system to remove much of the repetitive administrative load from the work of the senior field managers. This will improve the efficiency of this phase of the operation and enable field managers to focus more clearly upon improving the quality of the statistics being collected.

The ABS is also developing a digital mapping system for the 1996 Census. While additional funding will be sought for part of the cost of this system, it is anticipated that the costs will be recovered in the subsequent Census. In addition, the system will present an opportunity for a significantly better service to users of a wide range of ABS products, and will lead to further productivity in the future.

New Statistics

In response to user demands, the ABS intends to code usual address both 1 year ago and 5 years ago to the Statistical Local Area level; collect information on the number of children ever born; and collect information on the severely/profoundly handicapped subject to the development of adequate questions. No additional funding is being sought for these new statistics from the 1996 Census.

GENERAL ISSUES

As part of its deliberations, the Committee examined the census practices of a number of other countries. This information is summarised at Attachments D.1 to D.7. It is evident that practices differ significantly. In general, Australia:

- along with Canada and New Zealand, conduct censuses most frequently; and
- along with New Zealand, has a more extensive enumeration.

However, the Australian Census form seeks less information than the long form used in Canada and far less than the long form used in the US.

There seems to be several reasons why Australia may have a greater need for timely and comprehensive Census data. They include, population dynamics and the implications for public policy and private planning, electoral requirements, the degree of vertical fiscal imbalance and the system of fiscal equalisation.

Australian Population Dynamics

Australia's population increased by 16 per cent in the decade to 1990 compared with only 9 per cent for Organisation for Economic Cooperation and Development (OECD) countries as a whole. Among the seven OECD countries analysed in Attachments E and F, Australia consistently had the highest rate of population growth and the second highest rate of gross migration flows in the 1980's. Coupled with these high rates of growth and migration flows are:

- high rates of internal migration (18% of Australia's population changed addresses within 1 year and 43% within 5 years); and
- changing household and family structures, for example, between 1986 and 1991, the number of group households increased by 19 per cent, single person households increased by 18 per cent and single parent families increased by 53 per cent.

It is evident that information on the social, economic, demographic and geographic characteristics of Australia's population is likely to become out of date more rapidly than the average for OECD countries. Thus, to ensure the quality of policy development and planning decisions, both public and private, data must be provided more frequently than in those countries.

Electoral Requirements

Section 24 of the Constitution provides that the number of members of the House of Representatives chosen in the several States shall be in proportion to the respective numbers of their people. The High Court in *Attorney-General (Cth); Ex rel McKinlay v The Commonwealth* (1975) 135 CLR 1 held that section 24 required that the populations of the various States must be ascertained, for the purposes of determining the number of members in the House of Representatives to be elected from each State, during the life of each ordinary triennial House and in time to permit ordinary elections based on those numbers.

Attorney-General Ellicott and Solicitor-General Byers subsequently advised, in an Opinion dated 23 February 1976, that some method of counting the population such as periodical censuses needed to be undertaken to enable the State populations to be reliably determined. In their view, indisputable compliance with the constitutional requirement would be achieved by legislation requiring a Census to be undertaken as soon after each general or triennial election as to permit any necessary redistribution to take place, and electoral rolls to be prepared, say, within two and a half years from the first sitting of the House of Representatives. That is, censuses would need to be conducted at least triennially.

They considered that if quinquennial counts alone were undertaken the High Court decision required that statistical estimates of the populations of the States needed to be made during the life of each ordinary or triennial Parliament and reasonably close to its termination. In their opinion, the disparity in timing between quinquennial censuses and triennial elections meant that statistical estimates of the population tended to become unreliable for years subsequent to censuses and afforded ground for a court to hold that the number of each State's members in the House of Representatives was not in fact in proportion to its population. They concluded that, although a triennial census geared to ordinary general elections was not required by the High Court decision, it was clearly the safer course of action.

The Government of the day opted for quinquennial censuses, with a population estimate based on those censuses to be made one year into the life of each House of Representatives. The necessary amendments to the *Census and Statistics Act 1905*, the *Commonwealth Electoral Act 1918*, and the *Representation Act 1905* were enacted in 1977.

There have been no judicial developments since the *McKinlay* case suggesting that the present High Court would adopt a less strict approach to the constitutional requirement imposed by section 24 of the Constitution than that taken in 1975. Accordingly, the views expressed in the 1976 Opinion retain their cogency. Although there has been no legal challenge to the 1977 legislation on the ground that section 24 requires triennial (rather than quinquennial) censuses to be conducted, it is clear that the longer the period between censuses, the greater the risk of successful constitutional challenge.

If decisions regarding the determination of the numbers of the House of Representatives to be chosen in the States in 1988 had been made based on the 1981 Census results rather than the 1986 Census results, the State of Queensland would have been allocated one less seat than was actually the case.

In carrying out electoral boundary redistributions, it is a legislative requirement that the Redistribution Committee endeavours to ensure that in three and a half years from the redistribution, the number of electors in each electoral Division in a State or Territory varies by only 2 per cent from the average Divisional enrolment for that State or Territory. In order to make the relevant population projections, the latest population statistics obtained from the Australian Statistician are used to calculate growth rates.

Commonwealth Outlays and Payments to the States

Census data is used extensively in allocating both Commonwealth general and specific purpose payments to the States, Territories and local government as well as in planning and managing the Commonwealth's own purpose programs.

The heavy reliance on Census data in respect of payments to the States and Territories reflects the higher degree of vertical fiscal imbalance and the comprehensiveness of horizontal fiscal equalisation arrangements in Australia compared with other federations with which Australia is frequently compared - Canada, Germany and the US.

Financial Assistance Grants (FAGs), which are the main category of general purpose assistance payments, accounted for 12.7 per cent of total Commonwealth Budget outlays in 1992-93. The distribution of FAG's among States and Territories is based on per capita relativity factors determined by the Commonwealth Grants Commission (the Commission) and the estimated populations to which the factors are applied. In calculating the per capita relativity factors, the Commission uses a wide range of Census data in examining the demographic, geographic and economic factors that bear on State and Territory government expenditure.

The allocation and management of major specific purpose payments to the States and Territories, including for hospitals, education and housing, as well as the management of the Commonwealth's own purpose programs in the social security and welfare, health, higher education and community services areas, all rely on Census data. Taken together with Commonwealth Grants Commission requirements, it is evident that Census data is used in designing and managing the bulk of Commonwealth outlays programs.

OPTIONS CONSIDERED

The Committee identified for preliminary consideration the following alternatives to a full count-full enumeration Census:

- Reduced Content;
- Headcount;
- Long/short form; and
- Rolling full content.

Attachment B provides a list of topics which are included for each census type.

Reduced Content Census

This option has the same characteristics as a full content Census, except that certain topics are omitted on the basis that they involve relatively high processing costs - See column 3 of Attachment B and footnote (a). This option, allowing for loss of revenue, will save \$22 million.

Headcount Census

This is an extreme form of the reduced content option, and will only provide the basic demographic data needed for electoral and limited Commonwealth grant allocation purposes. Allowing for loss of revenue, the net savings are \$22.5 million if the headcount only includes the questions listed under column 4 of Attachment B.

Long/short Form Census

Under this option, data from the long form are processed only for a sample of the households (and individuals) while data from the short form are processed for every household and individual. The questions in the short form are a subset of the questions in the long form.

This approach would have the benefit of providing sufficient data for the full range of regional analysis (for large regions) and the inter-relationship of various characteristics for the data collected from the short form. However, because of the effect of sampling errors, data from the long form would be unreliable for smaller areas and small groups of the population. An indication of the sampling errors is shown at Attachment G. To minimise this impact and also on the basis of cost efficiency, it is assumed that only the most costly questions be restricted to the long form, the details of which are included in column 5 of Attachment B.

It should be noted that Canada, France, Germany, UK and the US which use sampling in their Census, have additional information available from administrative sources, for example, national identification schemes, to support the Census data obtained under this option (see Attachment D.1). Australia does not have such information available to it.

The net savings for this option with the content as outlined in Attachment B is \$10 million.

Rolling Full Content Census

A Rolling full content Census would involve a headcount Census every five years, supported by a rolling program of sample surveys to provide auxiliary information during the intercensal period. To be effective, the surveys would have to be fairly large, say 5 per cent each year, so that the data on its own would provide reliable national data, and indicative, though not very precise, regional data. Modelling of the annual data would be needed to enable users to utilise the accumulated data of 5 years (a 25% sample) to adjust for changes in the socio-economic and demographic characteristics of the population. If statistics for small areas and small population groups are needed, then a much larger sample than 5 per cent would be needed annually.

This option is estimated to cost more than the full content option.

SAVINGS OPTIONS

The Committee identified two ways to reduce the cost of conducting censuses:

- conduct censuses less frequently — the terms of reference suggest 7 or 10 yearly intervals;
- seek less information by adopting, for example, the reduced content or long/short form options; or
- some combination of the above.

Reduced Frequency

The options of reducing the frequency of the Census to every 7 or 10 years would reduce the cost of the Census over the longer term by about 30 per cent or 50 per cent respectively, ie an average \$8 million or \$13.5 million per year in 1993-94 prices respectively. (These savings are calculated against a benchmark of \$135 million in 1993-94 prices, or an average of \$27 million per year, for the existing policy of a full content-full enumeration Census every 5 years.)

Although it is not universally adopted, the international standard is to conduct censuses every 5 or 10 years. The introduction of a 7 year interval in Australia would thus reduce the current level of synchronisation, hampering international comparisons.

Reductions in frequency of this order would have significant implications for the usefulness of Census data in the additional intercensal years, including in particular, electoral requirements.

As indicated in the discussion of electoral requirements, the distribution of electoral seats between States requires the timely availability of accurate population estimates. Reducing the frequency of the Census, even to 7 years, would increase the risk of a successful High Court challenge to an electoral distribution. In this context, note the potential for error in determining the allocation of seats for the House of Representatives illustrated above.

The introduction of a 7 or 10 yearly cycle would also have an adverse effect on the accuracy of State/Territory population estimates used in allocating grants and the accuracy of the review of State relativities undertaken by the Commonwealth Grants Commission. A significant misallocation of Commonwealth Grants to the states and Territories could thus result in the sixth and subsequent years of the cycle.

Beyond the specific requirement of the Electoral and Grants Commissions, the Committee considers that the implications of reduced frequency for a much broader range of users are significant relative to the savings involved. Census data represents the cornerstone for a wide range of economic and social statistics. ABS

household surveys, such as the monthly labour force, national surveys of health, income, expenditure, families, time use, crime victims, are all benchmarked to Census data, as are such important indicators of economic activity as the National Accounts. Indeed, it is difficult to provide examples of commonly analysed economic and social statistics which are not dependant, if only indirectly, upon information gathered from a Census. Reducing the frequency of the Census, even in the case of a 7 year cycle and particularly so for the 10 year option, would thus have significant adverse implications for the accuracy and quality of the data on which important and ongoing social and economic analysis is founded.

In addition, the efficiency of all intercensal ABS household surveys is dependent on the availability of regular Census data. Without the survey re-designs which follow each Census, the samples in each of these surveys would have to be larger than otherwise required if the accuracy of the data was to be maintained.

The impact of the re-design is illustrated by the monthly labour force sample. In 1993, this sample comprised 30,000 households. Had the re-design using the 1991 Census not occurred, the sample required would have been 34,000 households.

Reducing the frequency of the Census, even in the case of a 7 year cycle and particularly so for the 10 year option, would thus have significant adverse implications for the accuracy and quality of data. In particular, the Census provides the only reliable means of collecting population based information for small areas and small target groups on a number of important matters. Less timely Census data resulting from reduced frequency would adversely affect many planning and investment decisions in both the public and private sectors.

In this context, it is relevant that in his presentation to the Committee, the New Zealand Government Statistician noted that in a severe round of expenditure cutting in 1991, which included the axing of a range of statistical services, the New Zealand Government decided not to take up an option to reduce the frequency of the Census from 5 to 7 years.

The Committee identified three related areas where there are likely to be increased demands for timely and accurate Census data in the design and management of public policy, namely employment/unemployment, regional and social policies.

Addressing the high level of unemployment is the government's highest priority. The Census provides a benchmark for a range of data that is critical in analysing labour market developments and prospects and in framing education and training and labour market programs.

The relative severity of the 1990-91 recession diverged significantly among States, Territories and regions. As a result, there has been increasing focus on regional strategies to foster growth and address unemployment. The design and management of such programs is heavily reliant on small area labour market statistics.

The allocation of funds under the Local Capital Works program in the 1992 Budget was directed to regions and local government areas that experienced higher than average rates of unemployment. Entitlements under this program were determined on the basis of small area labour market data.

Similarly, small area data will be relevant for the analysis and policy development being undertaken by the Task Force on Regional and Urban Development chaired by Mr Keltz, and the Australian Urban and Regional Development Review.

Finally, in the area of social policy, the Committee noted that the structure of Australian families was changing quite rapidly and this was posing challenges for the design of programs that were targeted on the basis of family income and assets.

The Committee concluded, having regard to the requirements of the Electoral and Grants Commissions and the pressures in the areas of unemployment, regional and social policy, that it would not be prudent to reduce the frequency of the Census.

Content and Coverage of the Census

The Committee considered a range of options to reduce the content and coverage of the Census. It decided to carefully evaluate two options:

- Reduced Content 1996 and Full Content 2001 and alternately thereafter, saving about \$2.2 million (\$22m over 10 years) in 1993-94 prices per year on average; and
- Full Content 1996 and Long/short Form 2001 thereafter, saving about \$2 million (\$20m over 10 years) per year on average.

The Committee noted that both these options were also considered prior to proceeding with the full content-full enumeration censuses in 1986 and 1991. In 1976, following the collection of a full enumeration Census, in order to achieve budgetary savings, the Government decided that only half the returns should be processed. The 1976 arrangement was a variant of a long/short form Census. It eliminated the cost of processing half the returns but it did not eliminate the need for all households to fill in a long form. The other options considered by the Committee and the reasons for not evaluating them in detail are set out in Attachment H.

In order to focus on options that afford reasonable savings, the Committee decided to evaluate the consequences of eliminating (in the case of a reduced content Census) or subjecting to a 1 in 3 sample (in the case of a long/short form Census) only topics that are among the most costly to process. The topics involved are as follows:

- Occupation
- Industry
- Qualifications
- Journey to Work
- Usual Address Five Years Ago

Data in respect of these topics would be adversely affected under each option. In the reduced content option, the data will be available only every 10 years rather than every 5. In the case of a long/short form option, the data would be available every 5 years but, being derived by sampling, would be subject to increased uncertainty. Relative to current arrangements where full enumeration occurs every 5 years, the data would thus be available less frequently or would be less reliable.

Census data currently provides the only reliable, regular source of information on these five issues. Moreover, as will be discussed shortly, these issues are important, and topical areas of economic and social research; they are particularly important in the provision of a range of programs, and in regional and infrastructure planning.

The detrimental effects of the reduced content option upon such analysis are self evident, impacting through the frequency of provision of the data and quickly dating the analysis. The concerns raised above in the discussion on reducing the frequency of the overall Census would thus be applicable. Given the five specific issues can be identified as particularly important areas of analysis, reducing the frequency of availability of the data would adversely impact on public and private decision making in these areas.

The long/short form option would continue to provide the necessary information on these issues every 5 years as at present. However, this option would also adversely affect analysis in these areas by impacting on the reliability of the data, since it would be derived by sampling a third of households. As discussed in Attachment G, the sample errors involved are likely to be significant for small areas and small populations - the basic rationale for conducting a Census.

Implications for Commonwealth Agencies of Less Reliable Data

In assessing the implications of less reliable data on the five selected topics, it is worthwhile initially considering Occupation, Industry and Qualifications together because these data are analysed as a set by many users.

Those implications are set out below.

- Reduced efficiency in targeting of labour market programs (Commonwealth budgeted allocation \$1.3 billion in 1993-94). In order to effectively assist unemployed people back into the workforce, it is critical to monitor the changing industrial and occupational structure of employment as a basis for the assessment of existing policies and the development of new policies. A Committee on Employment Opportunities has been commissioned to prepare a Discussion Paper to assess current policies on unemployment, preparatory to the release of a Government White Paper in 1994.
- Reduced efficiency of resource allocation in school education, vocational education and training and higher education. This is particularly so in the case of the vocational education and training sector, which needs to directly relate its resources to forecast demand by industry and occupation.
 - For example, Industry Training Advisory Bodies (ITABs) aim to reduce skill imbalances, promote productivity and increase industry's capacity to cope with change. ITABs analyse the changing training requirements of their industries and provide advice to governments on workforce training policies. In so doing, ITABs require timely, detailed information on employment by occupation, industry, full and part-time work and qualifications.
 - Additionally, the Australian National Training Authority (ANTA), recently established to plan and allocate resources for the national vocational education and training system, requires Census data on both occupations and industry to fulfil its charter.
- Impair the delivery of labour market programs such as JOBTAIN, Special Intervention, Skillshare and JOBSKILLS. These programs are concerned with remedying skill shortages and/or deficiencies through training specific to local industry needs. Small area data on qualification and industry and occupation provide the basis for this assistance. In addition, Census occupational data are used by the Office of Labour Adjustment (OLMA) for industry assistance packages for regions most affected by labour adjustment in specific industries.
- Reduce the alignment of the migration program with the needs of the labour market, and result in individual migrants being more likely to suffer periods of unemployment at cost to the public purse. The skilled migration program would become a less effective mechanism for addressing current and anticipated skill shortages. The Department of Immigration and Ethnic Affairs uses field of qualification, occupation and industry data in assessing labour market demand and supply, which are critical in determining the size and composition of the economic categories of migration (particularly the Employer Nomination/Labour Agreement category but also the points-tested Independent and Concessional Family categories).

The loss or diminution of detailed data on individual topics would have the following additional effects.

Occupation Data

- Impair the operations of the Department of Social Security, given its increased focus on arrangements to assist clients to become more financially independent, its increasing emphasis on regional client needs (through, for instance, the formation of Regional Development Task Forces), and its increasing involvement with the Department of Employment, Education and Training (DEET) in local employment strategies and programs (for example, through the Innovative Employment Strategy).
- Hamper the operational efficiency of the Department of Health, Housing, Local Government and Community Services (DHHLGCS). Occupation is the basic unit for identifying general practitioners

and other health care workers and their type of activity. DHHLGCS requires a range of occupational labour market information based on Census data for workforce planning purposes, and the Census is the only available source of detailed occupational data on a small area basis.

- Jeopardise the implementation of DEET's planned restructuring of service delivery and organisational structures, and the potential for substantial efficiency gains, and reducing the Department's ability to respond to changed service requirements.
- Severely restrict analysis of access and equity issues concerning women, migrants, Aboriginal and Torres Strait Islanders and other groups, impeding policy development and program delivery enhancement.
- Reduce the quality of occupational information available for career advising and career choice. High quality careers information is particularly important in a period of labour market uncertainty.

Qualification

- Severely restrict analysis of access and equity issues.
 - In terms of monitoring women's participation in the labour force there is a strong requirement for Census field of study data. These fields are used to assess the general level of education of women within the population. This permits planning for programs to encourage women into non-traditional fields of education.
 - In addition, field of study is vital to DEET's ability to assess the take-up rate of open learning. The Census is of particular value in gathering data on those living in remote areas of Australia.

Journey to Work

Journey to Work is an important component of an individual's daily travel making up a significant proportion of total daily trips and of total travel. Journey to Work levels and patterns have been and will continue to be important areas for research because of the significant policy implications they present in such areas as:

- urban planning, especially of roads and public transport, with a view to improving access as well as the provision of housing and services;
- the provision of new child care facilities and targeting those areas of highest need;
- provision of financing arrangements for the necessary infrastructure such as roads, public transport, freight routes, shopping areas and public facilities;
- industry location and restructuring through identification of 'natural labour markets';
- the development of accurate local area profiles to target labour market programs; and
- energy and the environment.

This information also contributes to the analysis of urban transport externalities, eg congestion, accidents, noise. These are affected by transport activities, other than journey to work, such as truck transports. However, Journey to Work is a significant proportion of total transport load and policies to reduce urban transport externalities which are estimated by the Bureau of Transport and Communications Economics to be \$6.8 billion per year, require such information at a detailed geographic level.

Journey to Work information provides the key information on daytime populations. This type of information is stock in trade for marketing and in its absence would necessitate marketing surveys. It is also of crucial importance for social planning for services related more to work places than homes.

Such surveys by a wide range of organisations would aggravate respondents and reduce the accuracy of the ABS Censuses and other surveys.

Sampling is of particular concern in regard to Journey to Work data. In general it does not provide the degree of reliability needed, particularly for small area data because typical Journey to Work analysis requires extensive cross tabulations involving origin, destination, industry, occupation and other related variables.

Usual Address 5 years ago

Most comments relating to collection of internal migration data received during the Census user consultation conducted in early 1993 pointed to the need to code the addresses 5 years ago data to the Statistical Local Area (SLA) level. The SLA-coded data are essential input for making small area (local government area and SLA) population projections. Such projections form the basis for urban planning and infrastructure budgeting by government agencies in all States and Territories, and are used to guide government expenditure.

Respondents also noted that governments have needs for regional and small area population data to enable planning for service delivery. The need for small area data is expected to increase in view of regional policy initiatives and the organisational changes in some Departments giving greater emphasis to planning and performance monitoring for small areas.

The information collected through this item is an essential component of the internal migration studies sponsored through the Joint Commonwealth/State/Territory Population and Immigration Research program, and is used in Treasury's Retirement Income Model for the planning of aged care services.

The Census provides the only comprehensive source of data on inter and intra-State population movement within Australia. In some Western countries there are administrative sources for this data.

Again the Committee concluded that it would not be prudent to omit any of these topics, having regard to:

- the modest gross savings involved; and
- the particular relevance of these topics in designing and managing labour market and education and training policies and in urban planning, all areas where the utility of accurate information, including in respect of small areas, is high and may well increase.

COMMUNITY CONSULTATION

Australian Statistics Advisory Council

As part of the review, the Parliamentary Secretary to the Treasurer requested the advice of the Australian Statistics Advisory Council on the issues being considered by the Interdepartmental Committee, as set out in the Terms of Reference. Council members were provided with a preliminary draft of the IDC report for discussion at their meeting on 24 November 1993 which was also attended by the Chair of the IDC. As ASAC was to be the forum through which the views of States were to be canvassed, State Government nominees on the Council were earlier briefed on the paper to ensure they had sufficient opportunity to canvass the views of individual State government agencies.

Following an extensive discussion on various options for conducting the Census including those covered by the IDC, the Council decided that the 1996 and future Censuses should be conducted on a full content and full enumeration basis, ie the same as that for the 1991 Census, and rejected the options for less frequent censuses, reduced content censuses and censuses using a long form/short form.

A copy of the advice from the Council to the Parliamentary Secretary to the Treasurer is at Attachment I.

Other Community Views

Over 45 submissions were received in response to an information paper on the options distributed to known users of Census data. The majority of the submissions overwhelmingly supported the retention of the existing

policy and expressed concerns about the impact arising from less frequent or reliable information on addresses 5 years ago, occupation, industry, qualification and journey to work.

A summary of the significant comments are included in Attachment J.

CONCLUSIONS AND RECOMMENDATIONS

The Committee has concluded that:

- it would not be prudent to reduce the frequency of the Census nor to reduce the content or extent of the Census; and
- it would be desirable to amend the treatment of the Census under the Forward Estimates of Outlays, while retaining the requirement for the Treasurer to bring forward a submission seeking Cabinet approval of the nature, content and funding of the Census, and thereby allowing the Department of Finance an appropriate opportunity to scrutinise the cost efficiency of each Census.

Accordingly, the Committee recommends:

- supported by ASAC, the continuation of existing policy for a full content — full enumeration Census in 1996 and each five years thereafter; and
- the full cost of a full content — full enumeration Census be treated as existing policy in the Forward Estimates of Outlays.

MEMBERSHIP OF THE COMMITTEE, TERMS OF REFERENCE AND CONSULTATION PROCESSES

Membership of the Committee

The Committee was chaired by the Department of Prime Minister and Cabinet. Secretariat services for the Committee, as well as a substantial amount of background material, were provided by the Australian Bureau of Statistics. Membership of the Committee comprised representatives of the following agencies:

Prime Minister and Cabinet — (Chair);
Arts & Administrative Services;
Attorney General's;
Australian Bureau of Statistics;
Commonwealth Grants Commission;
Australian Electoral Commission;
Employment, Education and Training;
Finance;
Health, Housing, Local Government and Community Services;
Immigration & Ethnic Affairs;
Social Security;
Transport and Communications; and
Treasury.

Terms of Reference

The Terms of Reference for the Committee were agreed by the Treasurer and the Minister for Finance and are as follows:

1. Review the proposal that the Census be conducted at 7 or 10 year intervals.
2. Consider the advantages and disadvantages of other options for reducing the cost of the 1996 Census, limiting options to those still feasible within the timeframe. This should include the option of a reduced Census each 10 years starting in 1996, with a full Census each 10 years commencing in 2001.
3. Consider other options for Censuses beyond 1996 including a short form census, with more detailed questions limited to a population sample.
4. Make appropriate recommendations to Government.

Processes and Consultation Strategy

The Committee initially identified a set of options for the conduct of future censuses and assessed the implications of each for Commonwealth agency users. These options were then considered by the Committee with a view to identifying those that were worthy of further consideration and for wider community consultation.

A brief summary on the Committee's initial findings was prepared for presentation to the Australian Statistics Advisory Council. This was considered at their meeting on the 24 November 1993.

Community consultation was achieved with the distribution of a paper summarising the options to a wide range of private sector organisations, academics and the general community, known to have an interest in statistics on population and housing.

As part of its deliberations, the Committee examined the practices of other countries. Information on the census practices in a number of countries, which is summarised at Attachments D.1 - D.7, was based on:

- information held by the Australian Bureau of Statistics;
- information gathered from a series of interviews between Treasury officers located at overseas posts and overseas agencies which conduct the Census; and
- a seminar at which an Assistant Chief Statistician from Canada and the Government Statistician from New Zealand addressed members of the Committee.

SUMMARY OF TOPICS INCLUDED UNDER PROPOSED OPTIONS

<i>Full Content Census</i>	<i>Estimated Processing Costs(a)</i>	<i>Reduced Content Census</i>	<i>Head Count</i>	<i>Long/Short Form(b)</i>
Name	Nil			
Age	Low			
Sex	Low			
Marital status	Low			
Relationship (family structure)	Very High		Excluded	
Number of children born	Low		Excluded	
Address at census time	Low			
Usual residence				
Census time	Medium		(c)	
One year ago(c)	High		(c)	
Five years ago	Very High	Excluded	Excluded	Sampled
Birthplace	Medium		Excluded	
Birthplace of parents	Medium		Excluded	
Year of arrival	Low		Excluded	
Citizenship	Low		Excluded	
Aboriginal/Torres Strait Islander origin	Low			
Language use				
Language spoken at home	Medium		Excluded	
Proficiency in English	Low		Excluded	
Severely/profoundly handicapped(d)	Low		Excluded	
Religion	Medium		Excluded	
Attendance at an educational institution	Low		Excluded	
Type of institution being attended	Low		Excluded	
Education qualifications				
Level of qualifications	Low		Excluded	
Field of qualifications	Very High	Excluded	Excluded	Sampled
Age left school	Low		Excluded	
Income (including family income)	Low		Excluded	
Labour force status	Medium		Excluded	
Occupation	Extremely High	Excluded	Excluded	Sampled
Industry	Extremely High	Excluded	Excluded	Sampled
Hours worked	Low		Excluded	
Journey to work (destination zone coding)	Extremely high	Excluded	Excluded	Sampled
Mode of travel to work	Low		Excluded	
Number of motor vehicles garaged	Low		Excluded	
Number of rooms/bedrooms	Low		Excluded	
Nature of occupancy	Low		Excluded	
Rent	Low		Excluded	
Housing loan repayment	Low		Excluded	
Private dwelling structure (classification)	Low		Excluded	
Non-private dwelling (classification)	Low		Excluded	

Notes:

(a) As it is not possible to pro-rate the overhead costs, only staff costs for processing are included.

Legend:

Low	Less than \$100,000
Medium	\$100,000 to \$500,000
High	\$500,001 to \$1,000,000
Very High	\$1,000,001 to \$3,000,000
Extremely High	\$3,000,001 to \$5,000,000

(b) Under this option, questions on the 'short' form will be asked of every household and individual in Australia. The topics included will be the same as those shown for the Reduced Content Census in column 3. Questions on the 'long' form (shown as 'Sampled') will be asked of a sample of the population.

(c) Responses to this question were only coded to State/Territory level for 1991 Census. During consultation, users argued convincingly that the responses should be coded to Statistical Local Areas (SLA) for 1996 Census. The ABS estimates that coding will cost \$1 million.

(d) This question was not included in the 1991 Census. Its inclusion in the full content option is subject to tests confirming that the quality of severely/profoundly handicapped data to be obtained from the census is acceptable.

(e) The responses under this option will only be coded to State/Territory.

CENSUS EVALUATION PROCESSES

Each Census of Population and Housing is evaluated through a number of mechanisms. This section outlines these separately for the post-hoc evaluations of the 1991 Census and the reviews undertaken and planned for the next Census.

Major Reviews of the 1991 Census.

The more important ex-post evaluations are set out below.

- Review of the field collection system. Closely following the Census, senior managers were drawn together to evaluate all aspects of the collection process from the viewpoints of efficiency and effectiveness. Recommendations from this review are being implemented at appropriate stages in the process for the next Census. In particular, this review led to the consideration of automating the collection management and mapping systems for the next Census.
- Review of the DPC processing operation. Similarly all senior managers from the Data Processing Centre and clients of that Centre evaluated all steps in the development and application of the processing system. The recommendations from this review are being used to guide the development process for the next Census including the form testing process and choice and design of the processing system.

Major Reviews of the next Census.

The Census is reviewed by the Government through the Cabinet and Budget processes in (at least) two stages. For the next Census a New Policy Proposal was lodged in May 1993 and a Cabinet Submission will be prepared for lodgement early in the Autumn sittings of 1994. The report of this IDC will form part of that Submission.

All ABS Information Technology development projects are subject to evaluation by senior managers from outside the project at a number of stages prior to implementation. This process has been followed for projects for automation of the collection management, mapping and processing systems. In addition to technical feasibility, these reviews have examined the cost effectiveness of the proposals.

The choice of processing methodology was subject to a detailed review of technical feasibility including a field test. Evaluation of the proposal considered a range of issues including cost efficiency and impact on service delivery.

Portfolio Evaluation Program: The Census is to be evaluated as part of the Treasury Portfolio Evaluation program. The terms of reference of this review are shown below. It is intended that this review will rely on a considerable amount of information from the relevant reviews already undertaken to date.

Other Reviews undertaken are as follows.

- Review of the timing of release of Census data. This review resulted in a report to the senior managers of the ABS recommending a 2-phase approach for processing and releasing census data. The recommendations, which have been accepted, have led to an agreement for Census data to be made available to the Commonwealth Grants Commission to have its next major review of relativities to be undertaken in 1998 (instead of 1999).
- The future directions for Census output have been evaluated by a high level Steering Group. Recommendations from the review (for example, setting up a group to examine the cost effectiveness

of 1991 Census products and services and to advise on the consultation processes with users of Census output) are being implemented.

- Review of the content of the Census. The initial stage of this review was conducted as a public consultation, and included aspects of census collection procedures particularly those affecting privacy. The principal evaluation vehicle was publication of 'ABS Views on Content and Procedures' in February 1993. A paper summarising the results of this process was considered by the Australian Statistics Advisory Council in July 1993. To some extent the considerations of this IDC are an extension of this process.
- Further Content oriented reviews. Following the conclusion of this IDC and an announcement by the Government on the timing, nature and content of the next Census a further publication will be issued by the ABS to provide the basis for further public consultations regarding the classifications to be used in the output phase of the next Census.

The following is an extract from the Treasury Portfolio Evaluation Plan.

Program 5 — Australian Bureau of Statistics

Evaluation of the Census of Population and Housing

Reason for Evaluation

To enable recommendations to be made to the Government on the content and conduct of the 1996 Census.

Purpose and scope

To assess the effectiveness of the data delivered from the 1991 Census and in doing so, guide the development of the 1996 Census.

Key Issues

- effectiveness of the 1991 Census output for policy formulation and decision making;
- draw conclusions on above about the preferred content of the 1996 Census;
- consider the appropriateness of individual Census topics.

Relationship to other evaluations (if any)

Nil.

Principal Audience for evaluation findings

The Government and other interested groups. The evaluation results will be published.

Management Strategy for the evaluation

The evaluation will primarily be undertaken by the ABS under the direction of the First Assistant Statistician, Statistical and Information Services Division. Reports will be considered by senior ABS management and the Australian Statistics Advisory Council. It is anticipated that the evaluation will be completed by June 1994.

Evaluation methodology

Extensive discussions with Government and other users, and the analysis and review of this information.

Estimated resources for evaluation

Approximately 10 staff years.

OVERSEAS CENSUS FREQUENCY

<i>Country</i>	<i>Frequency (years)</i>	<i>Use of Sampling</i>
Australia	5	No
Canada	5	Yes (1)
France	6 – 8	Yes (2)
Germany	10	Yes (1)
New Zealand	5	No
United Kingdom	10	Yes (3)
United States of America	10	Yes (1)

Notes:

- (1) Basic demographic data are collected from every household and detailed data from a sample of households.
- (2) A full range of data is collected from every household but some items are only processed for a 25 per cent sample of households.
- (3) A full range of data is collected from every household but some items are only processed for a 10 per cent sample of households.
- (4) None of the above countries have undertaken specific reductions in overall census content to meet government budgetary constraints.

CANADA

The material contained in this Attachment is derived from a seminar presented to members of the IDC addressed by, *inter alia*, Bruce Petrie, Assistant Chief Statistician of Canada.

Since 1951 the Census of Canada has been undertaken every 5 years. From 1951 until 1976 the Census taken in years ending in '6' sought less information than that undertaken in years ending in '1'. Since 1976 this distinction has not been so evident, with little variation in content or methodology (except marginal changes to meet emerging user needs).

The Census is seen as the cornerstone of their package of social statistics. In assessing users needs they examine whether the Census is the appropriate vehicle to provide the required information. A number of alternative data sources are used to augment the census data.

The current Census is a long form/short form model. The short form only collects basic demographics and a question on mother tongue. Since 1976, one household in five has received the long form. For several Censuses prior to that the ratio was one household in three. It appears that users in Canada are able to cope with this style of Census.

It was stated by the StatCan speaker that this was seen as the best compromise between costs and meeting users needs for most purposes (except small area data). The actual saving introduced by changing to the long form/short form approach could not be quantified as several other changes were introduced simultaneously. The speaker noted that the sampling fraction was raised for areas such as Indian reservations and the far North to meet particular needs for data from these areas. (The remote North of Canada is enumerated three months earlier than the areas South in reflection of the difficulty of enumerating the Northern population when dispersed in Summer.)

In addition to cost considerations - which provided the main impetus - the aggregate reduction in respondent load was a further benefit of the Canadian model. The speaker contended that it was possible for the long form to contain additional information than would otherwise be the case if the same form was completed by all respondents.

The methodology for the Census is a drop-off/mail-back approach. This was felt to be more cost efficient than a drop off/pick up approach. They noted that a 80 per cent mail back rate was achieved in the 1991 Census. Some controversy had arisen due to the level of checking employed by collectors to ensure that every household visited had in fact returned a form.

The processing technology employed in Canada is key entry. The staff involved were temporary employees of Revenue Canada (Taxation), the equivalent of the Australian Taxation Office. StatCan had developed a method of automatically coding many write-in items, although this was not possible for industry or occupation due to the technical difficulties of automatically coding these items.

Electoral distributions and allocations of public funds are very important uses of Census data. StatCan was now recognising that undercount rates varied between provinces which had given rise to some debate with Provincial Treasury Boards.

FRANCE

The Census is taken at intervals of between six and eight years. The timing is chosen to avoid years in which there are Presidential, Parliamentary or local elections.

The Census is undertaken by the Institut National de la Statistique et des Etudes Economique (INSEE). This is a central statistical department within the Ministere de l'Economie et des Finances.

There is no system of population registration in France that provides up to date statistics of population in each area and that might form the basis for a fundamentally different approach to the census. Over the period prior to 1986 consideration was given to a number of possible new processing methods but they seem to have been dropped for 1990, with the exception of the introduction of OMR as the processing technology (apparent from an examination of the form).

Three forms are used in the Census which relate to a building (completed by the enumerator), a housing unit within the building, and a person usually resident with the housing unit. In terms of the 1982 and 1990 questionnaires, there were fewer questions relating to the individual than in many other countries but relatively many questions on housing. Questions omitted from the individual questionnaire related to ethnicity, language, income and journey to work.

In 1982 there was a supplementary enquiry addressed to a 2 per cent sample of women aged 18 to 64 concerning their marital and childbearing histories. It is not known whether this was repeated in 1990.

For 75 per cent of forms only basic demographics were extracted and all topics were processed through a two stage process for the remaining 25 per cent.

Other than "fitting in" with electoral timetables there has been no major recent change to the timing of the French Census. The last Census was held in 1990, as expected, and the next is scheduled for 1997 although a final decision has not yet been made.

OMR technology was used for the 1990 Census. This represents at least a partial change from the COLIBRI system described by Redfern.

A French law, referred to as the law on 'Informatique et Libertes' sets out principles for the protection of private data. Some anonymous individual data is provided to users outside INSEE. Redfern notes, in relation to the 1982 Census, that the "... public's response was generally good, though there was some hostility from a minority concerned with privacy."

Sources:

- (i) A Study of the Future of the Census of Population: Alternative Approaches. Phillip Redfern; Eurostat, 1987.
- (ii) 1990 Census questionnaires provided by INSEE.
- (iii) Fax of 19 July 1993 from INSEE regarding anticipated date of next Census.

GERMANY

In the Western part of Germany, Censuses were undertaken in 1961 and 1970. A count was scheduled for 1981, but actually only carried out in 1987. In the former GDR the last population Census was conducted in 1981.

There have been massive political and administrative changes in Germany since the Redfern and Herberger reports were prepared. As the Statistisches Bundesamt (Federal Statistical Office) has advised (in iii below) that "the legal basis required for (the proposed EC census in 2000) in Germany has not been passed yet" the future situation is also far from clear. Much of what will follow is thus in terms of an historical perspective.

In 1987 the collection and initial processing of the Census was undertaken by 4000 Census Offices appointed by the local community (equivalent to municipalities). These Offices passed the completed forms to a State Statistical Office who in turn passed tables, but not completed forms, to the Federal Statistical Office.

Population registers maintained by the local community do exist, but are inflated to a substantial extent as a result of the failure to delete names. While some proposals had been made to improve the quality of these registers they have not been implemented. Court rulings make these unlikely to be revived and there seems little prospect of developing an alternative to the conventional Census of Population through the linkage of personal data held in registers.

The Federal Republic has developed its own distinctive form of annual large scale sample survey - the 1 per cent 'Mikrozensus'. This complements the much less frequent information from the Census but does not give the small area detail needed by the 11 Provinces and local communities.

As noted above there have been changes to the frequency of the Census in the Western part of Germany, but these have not been related to consideration of statistical policies or issues. A Census was planned for the 1981 EEC round, but was deferred to 1983 by disagreements on financing between the Provinces and the Federal government. In turn the 1983 Census was abandoned due to political turmoil which began as a protest against nuclear weapons. Subsequently, political groups fomented a campaign which played on the public's fears concerning privacy and confidentiality.

Every household received the same form in 1987, whereas in 1970 a longer form had been sent to a 10 per cent sample. Most of the 'extra' questions addressed to the sample were dropped from the 1987 form. The principal difference in content between the (1987) German and (1991) Australian Census forms is a complete omission of information about migration (both internal and external). Statistics on internal migration can be obtained through the population registers and overseas immigration can be assessed through a citizenship question. (Most foreigners living in Germany are short term workers who retain the citizenship of their permanent country.)

There is no evidence that technological change has influenced the frequency of the Census. The OMR processing methods pioneered in 1970 have been used again in 1987.

Privacy issues have been pivotal in determining the nature of the Census. This is complex and explained well in Redfern. Amongst the aspects of the Census influenced by these concerns are:

- prohibition on using Census returns to update registers;
- separate forms for each person, rather than household forms;
- alternative methods of responding to the form (e.g. return immediately to collector; collector calls back to collect; mail back); and
- stricter rules about collectors not working in the area where they live.

Because of the inflation in the population registers intercensal estimates cannot be used directly to allocate public monies between the provinces and authorities at lower levels. Between 1970 and 1987 the estimates were carried forward from year to year starting from the Census numbers, adding in births and in-migrants and deleting deaths and out-migrants. It is noted by Redfern that "The intercensal population estimates tend to 'drift' as the years pass and have to be corrected at the next Census."

Sources:

- (i) A Study of the Future of the Census of Population: Alternative Approaches. Phillip Redfern; Eurostat, 1982.
- (ii) Information concerning the 1987 Population Census; (English translation), probably from Statistisches Bundesamt. (SB = Federal Statistical Office).
- (iii) Fax of 13 July 1993 from Federal Statistical Office regarding timing of Censuses.
- (iv) Population census 1987 in the Federal Republic of Germany - Problems in Planning and Execution; Report by Professor Herberger of the Federal Statistical Office.

NEW ZEALAND

The material contained in this Attachment is derived from a seminar presented to members of the IDC addressed by, *inter alia*, Mr Len Cook, Government Statistician of New Zealand.

Mr Cook noted that the Census in New Zealand was very similar to that undertaken in Australia. There was a considerable amount of consultation and some projects were inter-related (for example, development of some output products and the public relations program).

The NZ Census was undertaken every three years until the 1870s, since when it has been undertaken every 5 years. This timing is driven by the electoral system and a range of other institutional factors. It was noted that a change to the frequency would affect a wide range of programs. The Census was particularly important for small areas and special populations such as Maoris and South Sea Islanders. While the Census is augmented by administrative systems for some purposes it was seen as the only reliable source of internal migration information for population estimates.

A major review of the timing of the Census was undertaken in the lead up to the 1991 Census. Although the Government of the day was particularly anxious to reduce budget outlays, a proposal to reduce the frequency of the census to 7-yearly was rejected. A range of other reductions were made to programs of Statistics New Zealand.

The basic method of the Census is a drop off/pick up approach. (Until 1981 the data capture for the Census was undertaken by the Post Office.) The New Zealand Department of Statistics took on this role itself from 1986. The major methodological difference to Australia is the use of a separate form for each individual and a different type of form for the dwelling.

Most of the recent technological change has been to the output rather than the input component of the Census. For the next Census (planned for 1996) it is intended to use imaging technology, rather than the key entry used in the past.

Mr Cook noted that the Census is a prominent part of Departmental operations due to its size. Because it is part of the 'heritage' of the country he feels there is a lot of goodwill towards the Census which enables it to maintain a positive profile. Perhaps because New Zealand does not have the same range of sample surveys as Canada, the Census collects rather more information than in the Canadian Census.

UNITED KINGDOM

The Census has been undertaken every 10 years.

The Census of England and Wales is undertaken by the Office of Population Censuses and Surveys (OPCS). Redfern notes that ministerial responsibility rested with the Secretary of State for Social Services. This has now changed so that OPCS is covered by the Secretary of State for Health. Censuses of Scotland and Northern Ireland are administered by separate General Register Offices. (Where procedures differ between the administrations, Redfern's comments relate to the practices of OPCS.)

Local administrations in the UK play no part in the management of the Census.

The systems of registers that existed in the UK at the time of writing the Redfern report did not offer an alternative approach to conventional Censuses of Population.

A single (long) form is distributed to all households. In comparison with the Australian census the UK Census collects relatively little information on 'ethnic' topics, migration (internal or external) or educational qualifications. The topics relating to relationship in household, hours worked, occupation, industry, address of place of work, means of travel to work and educational qualifications were only processed for 10 per cent of forms.

Redfern makes no reference to any plans to change the frequency of the Census. Holt makes reference to a proposal for a rolling program of very large population surveys. He notes that " ... the detailed case showing how requirements for small area estimates could be met has not been fully made." He goes on to note " ... if different areas were sampled each year, the way in which the data could be used as an acceptable basis for annual funding of local authorities is unclear."

New technology appears to have had little impact on the frequency and form of the Census.

Privacy issues appear to have limited impact on the UK Census.

Annual population estimates are used both for planning and for the distribution of between authorities of large sums of public money. The estimates are carried forward from year to year starting from the most recent Census, by adding births and net (inward) migration and deducting deaths. The weakest elements are the estimates for internal migration which are based on data held in registers.

The Census is used as the benchmark for population estimates for funding of the Health service and local councils.

Sources:

- (i) A Study of the Future of the Census of Population: Alternative Approaches. Phillip Redfern; Eurostat, 1982.
- (ii) OPCS Census Newsletter No 26, 10 June 1993.
- (iii) Holt, T, Editorial, Journal of the Royal Statistical Society A (1991) 154 Part 2 pp 189-90.
- (iv) Information obtained by Minister (Economic) Australian High Commission, London.

UNITED STATES OF AMERICA

The US Census has been taken every 10 years since 1790. The Constitution calls for a Census every 10 years to apportion the seats in Congress. Legislation for a mid-decade Census has been on the books for some time, but funding has not been available.

The US Census is undertaken by the US Bureau of the Census (USBC). USBC is answerable to the Secretary of Commerce and forms a separate office within the US Department of Commerce rather than being an independent agency.

The USBC sees the use of administrative records as a way of supporting a conventional Census rather than as an alternative. There could be risks to the public's perception of census confidentiality if administrative records were to be used too widely in support of a conventional Census.

The approach used in the US employs a short form (sent to 5/6th of the population) and a long form sent to the other 1/6th.

The personal questions on the short form for individuals were little more than a head count and two questions related to race. The short form also included 12 questions on housing.

The long form, including 59 questions, is far longer than the short form (or the questions asked in Australia). It included questions for individuals about ancestry, whether undertaken military service, disabilities, more information about journey to work and hours worked, and 8 questions on source of income. The 18 additional household questions included questions relating to presence of a range of household facilities, type of and costs for fuel, insurance, property taxes and condominium fees.

The basic method employed in past US Censuses has been to mail questionnaires out and for them to be mailed back. If forms are not mailed back, enumerators visit the households to elicit the information. In the past this approach has been effective because the USBC has had access to a comprehensive register of names and addresses. In the 1990 Census the proportion of households contacted by this method increased. However, substantial extra costs were incurred because of a significant drop in the mail back rate.

A number of methodological changes were introduced in the 1990 Census to attempt to improve the count of the homeless.

The base technology used for recent US Censuses is FOSDIC (a USBC developed process using microfilm). This was described to the Minister (Economic) at the Australian Embassy in Washington DC as '1960s technology'. Among the investigations towards a 2000 Census is consideration of an image capture system. Any consideration to change this technology would not impact on the timing of the next Census.

While important, privacy issues do not appear to have a major impact on the US Census in comparison with experience in some European countries. Neither Redfern nor O'Hare give prominence to this issue.

Census data are widely used as a basis for distributing Federal and State funds by means of statistical formulas. This has been stated as a cause of what Redfern refers to as 'an unusually large number of legal challenges to the Census results: in fact over 50.'

O'Hare states that "The use of statistical formulas to distribute public funds formulae has grown rapidly as government leaders sought a more objective way to match resources and need. Census data are a fundamental part of this process. Elected officials and a large share of the public would be distraught if the census failed to produce the data needed to perform this function."

Sources:

- (i) A Study of the Future of the Census of Population: Alternative Approaches. Phillip Redfern; Eurostat, 1982.
- (ii) The United States Decennial Census: Problems, Possibilities and Prospects; W P O'Hare; Journal of Official Statistics Vol 8 no.4, 1992.
- (iii) Information obtained by Minister (Economic) Australian Embassy, Washington DC.

**POPULATION GROWTH
PERCENTAGE CHANGE OVER 5 YEAR PERIODS**

	<i>Australia</i>	<i>Canada</i>	<i>England and Wales</i>	<i>Germany (1)</i>	<i>New Zealand</i>	<i>United States</i>	<i>France</i>
1975-1980	5.8	5.9	0.3	(0.4)	1.0	5.4	2.2
1980-1985	7.4	4.7	0.6	(0.9)	4.5	4.7	2.4
1985-1990	7.9	5.7	1.6	3.2	2.5	4.8	2.3

(1) Federal Republic of Germany

Source: Demographic Trends, 1992, Department of Statistics, New Zealand.

OVERSEAS MIGRATION
GROSS FLOWS OVER 5 YEAR PERIODS

Time Period	Australia		Canada		England & Wales		Germany		New Zealand		United States		France
	1981-86	1986-91	1981-86	1986-91	1981-86	1986-91	1981-86	1986-91	1981-86	1986-91	1981-86	1986-91	1984-89
Total flow	1.366m	1.951m	0.735m	1.018m	2.005m	2.291m	5.333m	4.894m	0.443m	0.542m	2.826m	3.508m	0.060m
% of Base Population	9.2%	12.2%	3.0%	4.0%	4.0%	4.6%	8.7%	8.0%	14.2%	16.7%	1.2%	1.5%	0.1%

Note: Total Flow (shown in millions of persons) is the sum of Overseas Arrivals and Departures (excluding visitors) for all countries except the U.S.A. and France where only Overseas Arrivals statistics are available. The comparison of gross flows is a more meaningful measure of change to the structure of a population. For example, Germany's gross flows were high while the net flow is low largely because the inflows and outflows cancel each other out.

Sources:

Quarterly Demographic Statistics, 1992, Statistics Canada.
 Demographic Trends, 1992, Department of Statistics, New Zealand.
 Population Trends, Summer 1993, Office of Population Censuses & Surveys, United Kingdom.
 Demographic Yearbook, 1989, United Nations.
 Statistical Abstract of the United States, 1991, U.S. Department of Commerce.

STANDARD ERRORS FOR A PROPOSED ONE THIRD SAMPLE OF PERSONS WITHIN COLLECTION DISTRICTS (CD) FOR THE POPULATION CENSUS

<i>Standard Errors</i>	
<i>Size of Estimate</i>	<i>Indicative Standard Error (as % of the estimate)</i>
3 or less	over 100.00
4	86.00
5	77.00
10	54.00
15	44.00
20	37.00
30	31.00
40	26.00
50	23.00
100	15.00
200	9.50
500	7.00
1,000	5.00
5,000	2.20
10,000	1.60
20,000	1.10
50,000	0.70
100,000	0.50
500,000	0.10
1,000,000	0.09
3,000,000	0.07
5,000,000	0.05
10,000,000	0.04

Notes

(a) While most of the CDs in Australia usually contain less than 1,000 persons, the average is close to 500 persons and some CD's only contain 100 to 200 persons. As an illustration of the estimated sizes of population groups in Australia's CD's through the use of sampling, consider the following discussion about estimating employed persons by industry and occupation in small areas.

- Australia has on average 47 per cent of people in the labour force.
- It is likely that no single industry (at the 4 digit level of ASIC) contributes more than 50 per cent to employment in a small area; and no single occupation (at the 4 digit level of ASCO) contributes more than 70 per cent to employment (in a detailed industry) in a small area.
- Thus, by multiplication of the preceding estimates, the largest cell in a cross classified table involving industry and occupation for a small area is likely to amount to approximately 16 per cent of the population of that area.

- Example 1: In an area (say the average CD) with a population of 500 persons, the largest cell in the cross classified table will contain about 80 persons, with a confidence interval ranging from 50 to 110 persons. All other non-zero cells in the table will show a proportionately higher level of variation.
- Example 2: In a larger area (say a Statistical Local Area) with a population of 5,000 persons, the largest cell in a cross classified table will contain 800 persons, with a confidence interval ranging from 700 to 900 persons. If further cross classification by sex to allow for sex differentials, the largest cell would be likely to contain no more than 500 people with an interval from 430 to 570 people.

(b) The lower part of the table aims to give the standard errors for estimates from higher geographical levels by aggregating the data over CDs.

(c) The standard errors are indicative only due to a number of factors:

(i) The finite population corrections have been omitted from the calculations. The effect is to overstate the sampling errors, more so for the small CDs than the large CDs.

(ii) A design effect of 1 is assumed for all the variables under consideration (Industry, Occupation, Journey to work, Level of Qualification achieved and SLA address five years ago) and for estimates less than 500, although sampling will be carried out at the dwelling level rather than the personal level. This assumption, which is made to simplify the calculations, will underestimate the sampling errors to some limited extent.

(iii) On the other hand, a design effect of 0.9 is assumed for the remaining estimates because of the design efficiency which operates at higher-level aggregates (such as Statistical Local Areas (SLA)). This arises due to the sample being spread throughout all Collection Districts in the SLA, thereby giving a lower standard error than could be given by a simple random sample.

OTHER CENSUS OPTIONS CONSIDERED

In addition to the combinations of methodologies described fully in the body of the report, the Committee initially gave consideration to a further four alternatives. These were:

1. Headcount (1996) + full content (2001) and alternately thereafter;
2. Reduced content (1996) + long/short form (2001 and thereafter);
3. Reduced content (1996) + rolling full content (2001 and thereafter); and
4. Full content (1996) + rolling full content (2001 and thereafter).

The Committee did not consider these options to be worthy of detailed evaluation for the reasons set out below.

Option 1 (Headcount + full content) was not considered to be viable because it provides about the same savings but significantly less information than the option of alternating reduced content and full content (discussed in the body of the report).

Option 2 combines two elements - reduced content and the long/short form - that are already included in options subject to detailed evaluation and therefore took the view that the option not be considered separately.

The rolling content census is estimated to cost more than a current full content census, with content similar to the 1991 census. Having regard to the cost of this option and the need to model the annual data to provide small area statistics, the Committee considered that options 3 and 4 which contain the rolling content element are not cost effective options.



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The Hon. Gary Johns, MP
Parliamentary Secretary to the Treasurer
Parliament House
CANBERRA ACT 2600

Dear Mr Johns

REVIEW OF POPULATION AND HOUSING CENSUSES

Thank you for your letter of 30 September 1993 in which you requested advice from the Australian Statistics Advisory Council on the issues being considered by the Inter Departmental Committee to review the Census of Population and Housing, as set out in the Terms of Reference.

A very extensive discussion took place at Council's November meeting on various options including those covered by the Inter Departmental Committee. Following this the Council concluded that you should be advised that the 1996 and future Censuses be conducted on a full content and full enumeration basis, ie the same as that for the 1991 Census.

The Inter Departmental Committee canvassed the possible conduct of Censuses at 7 and 10 year intervals. Despite the apparent savings associated with the proposal, the Council notes and endorses the conclusions that increasing the interval for conducting the Census from 5 to 7 or 10 years would increase the risk of a successful High Court challenge under Section 24 of the Constitution; result in potential significant misallocation of Commonwealth grants to States and Territories; and provide less timely Census data essential for many planning and investment decisions. Consequently the Council does not support the proposal.

Regarding the two alternatives to existing policy for conducting the Census, namely, an alternating quinquennial reduced content and full content Census, and a full content Census in 1996 followed by a long form/short form Census every five years thereafter, the Council notes that the estimated savings from either option amounts to only about \$2 million a year. Strong and unanimous arguments were made by State representatives that, at a time when information on occupation, industry, qualification, journey to work and addresses five years ago is assuming increasing importance for better targeting of services and regional and infrastructure planning, the costs associated with poorer planning decisions as a result of less frequent and reliable information far outweighed the savings. The States also commented that

significant costs could be incurred in attempting to collect the lost data - again this view was supported by the majority of the Council. The Council also notes that additional expenditure on inter-censal surveys to maintain their essential accuracy would be required.

The Council notes that the ABS has already started an evaluation program on the efficiency and effectiveness of the 1991 Census and looks forward to ABS recommendations for conducting the Census more efficiently. If the Government considers it necessary to reduce the costs of the Census beyond established efficiency dividends, consideration could be given to increasing the revenue from Census products and services.

Yours sincerely

A handwritten signature in cursive script, appearing to read 'Norm Oakes'.

Norm Oakes

25 November 1993

SUMMARY OF COMMUNITY VIEWS

A paper summarising the options subject to detailed evaluation by the Committee was circulated to approximately 200 organisations and community groups known to have an interest in the Census. These included local government bodies, academics non-government bodies and private sector businesses.

The overwhelming thrust of comments from the broader community was to support the current approach to taking the Census (i.e. a full enumeration census with content broadly similar to that collected in 1991 Census). In supporting this position, many submissions made the point that the costs to the community of adopting the alternatives undergoing detailed evaluation by the Interdepartmental Committee far outweighed the savings being offered.

The more detailed comments offered in the community consultation were broadly similar to the views presented by portfolios represented on the Interdepartmental Committee and State Government nominees to the Australian Statistics Advisory Council. For completeness, a brief summary of the issues raised by the community consultation is set out below.

A number of the submissions (particularly Local Government bodies) referred to their needs for data for small geographic areas. These submissions state that the Census is the only reliable source of such data. The information was seen as particularly important for the areas experiencing rapid population growth.

A number of specific references were made to the use of Census data for small areas in analysis of local labour markets. Several of the items proposed for deletion under the reduced content option (or for sampling in the long form/short form option) were identified as crucial for understanding the labour market and assessing training needs. It was noted that this was a central focus of current employment policy.

The current thrust towards regional development policies was lauded in several submissions. However, these submissions also noted that the principal items affected by the savings options being evaluated by the Interdepartmental Committee were those required for the development of these policies.

Understanding the movement of populations was seen as an important use of Census information. Again, the options evaluated by the Interdepartmental Committee were seen to restrict such analysis at the local and regional level.

Urban planning and infrastructure provision were stated to be dependent on small area population projections. Internal migration data from the Census was seen as a foundation of these projections.

As indicated, many of the submissions focussed on small area needs for data reflecting the local government orientation of the respondents. Other submissions referred to the usefulness of the data for studying the labour force characteristics of small groups of the population. Particular reference was made to the need for Census data for monitoring how Australia's indigenous peoples are positioned in the labour market.

COMPOSITION OF THE CENSUS EVALUATION STEERING COMMITTEE

Mr Tim Skinner	First Assistant Statistician, Social and Labour Division (Chair)
Dr Richard Madden	Deputy Australian Statistician
Mr George Sarossy	First Assistant Statistician, Industry Division
Mr John Cornish	First Assistant Statistician, Statistical and Information Services Division
Mr Denis Farrell	Deputy Commonwealth Statistician, NSW
Mr Peter Gardner	Deputy Commonwealth Statistician, SA
Dr Siu-Ming Tam	Acting Assistant Statistician, Population Census Branch
Professor Max Neutze, AO	Member of Australian Statistics Advisory Council

TERMS OF REFERENCE FOR THE CENSUS EVALUATION STEERING COMMITTEE

The Terms of Reference for the Evaluation Committee were published in the Treasury Portfolio Evaluation Plan. The following is an extract:

Program 5 - Australian Bureau of Statistics

Evaluation of the Census of Population and Housing

Reason for Evaluation

To enable recommendations to be made to the Government on the content and conduct of the 1996 Census.

Purpose and scope

To assess the effectiveness of the data delivered from the 1991 Census and in doing so, guide the development of the 1996 Census.

Key Issues

- effectiveness of the 1991 Census output for policy formulation and decision making;
- draw conclusions on above about the preferred content of the 1996 Census;
- consider the appropriateness of individual Census topics.

At its first meeting, the Census Evaluation Steering Committee considered the Terms of Reference and decided to amend the word 'delivered' to 'delivery'. This amendment was aimed to broaden the scope of the evaluation to enable other essential aspects related to the effectiveness of the data delivered to be evaluated, eg quality, efficiency and effectiveness of service delivery, training and infrastructure issues etc, particularly in light of the observation that the evaluation of the three issues above had already been completed, following extensive consultation with users carried out in 1993. Consequently, additional key issues the Evaluation Committee decided to address were:

- the appropriateness of the current organisational structure for the distribution of Census data;
- the adequacy of delivery mechanisms for Census data including software and media; and
- the appropriateness of the ABS as a retailer of CDATE91.

LIST OF WORKING PAPERS TO EVALUATE CENSUS DATA QUALITY AND PROCEDURES

- (a) 93/1 "A study of the performance of sequencing instructions in the 1991 Census" - concluded respondents to a self-enumeration questionnaire take cues from many aspects of the form other than the instructions. It is thus not always possible to correct reporting problems by simply adding or revising instructions.
- (b) 93/2 "Comparison of self coded and write-in responses: July 1992 Test" - compares the effects on responses obtained from forms with pre-listed items (for data capture by OMR) and those without a list (for data capture by OCR), and found that the responses of a number of questions may be subject to a 'list' effect.
- (c) 93/3 "1991 Census data quality: A study of posted in forms" - shows that the data quality of posted in forms is lower than that of collected forms for traditionally sensitive items. In addition, it points out that "promises to mail in" are not always fulfilled as only 70 per cent of the promised forms were actually received by the ABS.
- (d) 93/4 "1991 PES: Comparison of Census and PES responses" - concludes that, as there are only minor discrepancies between the two collections for variables such as age and country of birth, there is reasonably high confidence on the quality of these statistics. In the case of sensitive items such as marital status and Aboriginal and Torres Strait Islander identification, the differences appear greater, but it is far from clear how the different methods of collection - especially the interviewer/respondent interface - affected the answers given.
- (e) 93/5 "Population Census Public Communications: A Marketing Approach" - applies marketing concepts to public communications associated with the 1991 Census, and evaluates the effectiveness of Census communications.
- (f) 93/6 "Census Data Quality: Aboriginal and Torres Strait Islander Counts" - considers a number of factors which could have led to the observed increase in the number of Indigenous people recorded in the 1991 Census. It notes reasonable stability in the counts for Aboriginal people, but considerable fluctuations in the number of Torres Strait Islanders.
- (g) 94/1 "Census Data Quality: Labour Force Status" - concludes that, given the complexity of the sequencing instructions for the labour force questions in the Census, the quality of responses appears satisfactory. Although comparison with the Labour Force Survey data showed reasonably close correspondence in the participation rates, there were larger differences between the unemployment rates. Some of this difference could be reduced by the addition in the 1996 Census of an extra question on availability to start work. However, the others which reflect (unquantifiable) differences induced by the different collection methodologies will likely remain.

**RECOMMENDATIONS FROM THE NATIONAL CONFERENCE ON THE
1991 CENSUS COLLECTION PROCEDURES**

**This Appendix provides a summary of the conclusions reached on individual reports by the Collection phase
Evaluation Conference.**

**As the summary was written primarily for the Census planners, readers may require assistance in
understanding the issues and the conclusions reached thereof. Those wishing to have this assistance
should contact Assistant Statistician, Population Census Branch, Bureau of Statistics,
PO Box 10, Belconnen, ACT 2616.**

**It should also be noted that, as the planning for the Census has advanced, many of the recommendations
have been subject to further evaluation in field Tests and research projects.**

**1991 CENSUS OF POPULATION AND HOUSING
COLLECTION PHASE NATIONAL EVALUATION CONFERENCE
DECEMBER 1991 – CONFERENCE REPORT**

This report provides an overview of the 1991 Census of Population and Housing, Collection Phase Evaluation Conference - December 1991.

The report addresses the recommendations made in papers presented at the conference (Topic Reports), relevant discussion and resulting decisions in the order of the conference agenda.

Dennis Trewin welcomed delegates to the Conference. He said that the collection phase had gone well which was a credit to all those involved. He regarded the collection phase evaluation conference as an important step in the development of the 1996 Census.

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1. STRATEGIC DIRECTIONS FOR THE NEXT CENSUS

1.1 Cost

The planning assumption needs to be made for the 1996 Census that the government is likely to allocate a similar budget in real terms to the 1991 Census.

The conference accepted this situation.

Discussion on this issue included; reducing costs through modified procedures or alternative Census methods, and increasing revenue through use of corporate sponsorship.

1.2 Tourism

Recommendation 1: Exclude foreign visitors from the scope of the Census.

It was agreed that this recommendation be accepted in principle and that Users be consulted. Testing of revised procedures is essential.

The major concern was that by excluding foreign visitors we may be creating collection problems for permanent residents and that we therefore need to test the concept and measure its effect. It was agreed that if testing shows that we have to leave foreign visitors in scope then either a modified form or skip instructions be implemented for these people next Census.

Recommendation 2: Review Non-Private Dwelling (NPD) enumeration to introduce more effective arrangements.

Discussion on this recommendation was held over until session 12 - Non-Private Dwellings.

1.3 Security

Recommendation 3: Be more prepared to acknowledge the option of returning a completed form by post and make collection control arrangements for such forms.

Although this recommendation was accepted in principle, it was decided that envelopes should not be handed out as a matter of course and that procedures should be implemented to keep mailbacks to a minimum consistent with ABS obligations under the Privacy Act.

There was concern expressed about the increase in mailback follow-up and the increase in loss of quality control by management during collection.

It was agreed that a computerised register of mail-back forms should be established, however opinions varied on whether this should be a Census Management Unit (CMU) or a Data Processing Centre (DPC) responsibility. Some states expressed concern that the DPC was unable to provide timely feedback in 1991 and that control was needed at the state level. Other states considered the task too large and time consuming to undertake from the CMU. An improved, computerised register maintained at the DPC with direct CMU access was considered the most appropriate solution.

Recommendation 4: Strengthen advice to public on not leaving forms out for collection and introduce standard financial penalty applicable to Collectors who deliberately flaunt procedures jeopardising confidentiality of Census forms.

The first part of this proposal was accepted. The second part of this proposal was discussed as part of session 6.

Recommendation 5: Investigate how the ABS may upgrade procedures for security clearances of Collectors.

The problems of security clearances for all staff were discussed and it was agreed that running security checks on all potential staff was highly impractical but that some type of sample procedures should be implemented. This will enable clear answers to be given to media questions concerning security. During Census 91 media spokespersons had very limited material to give when questioned on security procedures for potential Collectors.

Recommendation 6: Issue field staff with a photographic identification cards.

It was agreed to introduce photographic IDs if possible. Victoria indicated that this was a real issue in 1991 and photographic identification cards were essential in 1996.

1.4 Nature of Household/dwelling

Recommendation 7: Instigate procedures which are more likely to eventuate in householders being contacted by the Collector.

It was agreed that procedures should be altered to enable Collectors to have more chance of contacting Householders.

Issues considered as appropriate to enable this were; two delivery calls; an extra weekend for delivery and change of Census date to allow for more daylight during the Census. The first two were agreed to however the issue of Census date was discussed in further detail later in this session.

Recommendation 8: Issue Household forms to people in Non-Private Dwellings catering primarily for family groups.

The conference agreed to this recommendation, NPDs with family structures should get household forms.

There was discussion however on allowing the two types of forms to be used in NPDs such as retirement village complexes - household forms for the 'retired couple' accommodation and personal forms for the nursing/hostel accommodation.

User requirements for data on NPDs should be investigated to ensure collection changes still provide the same output. It may be that we can identify a current NPD as two or more for enumeration purposes.

1.5 Technology

Recommendation 9: Use digitised data for maps.

Discussion on maps was held over to session 20 - mapping.

Recommendation 10: Provide Divisional Managers with micro computers.

It was agreed that micro computers and relevant software be provided to Divisional Managers in 1996.

Some delegates were concerned about recruiting staff with micro skills however the majority agreed that it would be relatively easy. The selection criteria for Divisional Managers in 1996 would include micro computing skills.

The conference identified that a micro computer system could be developed to encompass the wide range of DM functions and that the current system would need to be totally unravelled to identify the directions such a system needed to take.

The discussion concluded that the use of micro computers for Census management by DMs be fully investigated. This task will require considerable input from central office, state offices and 1991 DMs.

Recommendation 11: Provide Divisional Managers and Group Leaders with telephone answering machines.

The conference agreed to this recommendation.

Recommendation 12: Provide computer assisted learning packages to Divisional Managers.

The conference agreed to this recommendation if micro computer system is developed for DMs.

1.6 Development

Recommendation 13: Development of the collection phase procedures be undertaken by central office.

This proposal was not accepted by the conference.

State management representatives felt that the skills in the states should be used for development. The problems associated with development for the 1991 Census were discussed with the major problems being lack of resources, conflicting priorities and lack of commitment at senior management level in state offices during development for 1991.

Co-ordination problems were also evident in state offices undertaking 1991 Census development work. This often required central office resources to resolve the issue and to a degree some duplication occurred.

States were asked for expressions of interest by the end of January 1991 on aspects of development for 1996 that they would like to be involved.

1.7 1996 Census Date

Recommendation 14: The date for Census 1996 be investigated in an attempt to enable more daylight hours and better weather for the collection phase.

There was no general consensus on this issue. Victoria and Tasmania experienced extreme weather conditions during the conduct of Census 91 and would like to see Census date moved to a daylight-saving month. There was also mention of problems with dates too close to summer due to the northern monsoon. No suitable alternative to August could be found although Victoria and Tasmania would prefer a date in April or May.

2. STAFF RESOURCES

It was generally agreed that the Census field program had been resourced adequately. HRB usage tables show an under-usage of resources in 90/91 and over-usage in 91/92 for most States and Australia as a whole. This is mainly attributed to end of financial year cutoffs. Overall CMU Salary allocation was appropriate.

SA noted the use of an additional position not funded by Census and therefore not reflected in the BUSY figures.

NT noted additional resources requested for CFOs in 1991-92.

QLD noted additional resources requested to complete Census payments in 1991-92.

All States indicated that they had received all the support they had requested from other projects in their offices. There was general agreement that the Office as a whole benefited from this involvement of non-Census staff in the Census. Glenn Cocking noted that he would anticipate getting the same cooperation next Census.

NSW commented that to take full advantage of Office wide support they would opt to locate within the State Office next time rather than in the DPC.

Table 1 reflected NSW's greater usage of Public Service Act employees instead of C&S Act employees. This was because of their location in the DPC and remoteness from the NSW Office.

A major contributor to 'other' in Table 2 was general recruitment.

It was noted that Table 2 included all CFO resources. Remote area CFOs are more like DMs and perhaps it would be more appropriate to omit them from Table 2.

For Tables 3 and 4 it was pointed out that the limitations of BUSY should be remembered and that it might differ from spreadsheets since received from the States. When the SOM Appendix 24s are received from all states they will be analysed to ascertain the resources used on the Census and, by comparison with BUSY data, the extent of assistance provided from other projects.

3. CENSUS TIMETABLE

There was general acceptance that Census operations were more timely in 1991 than they had been in 1986. It was however felt that documentation and materials were received too late and that there were many conflicting deadlines throughout Census operations. The 1991 Census had two separate collection phase timetables.

It is recommended that the entire Census operation timetable be reviewed, to resolve these issues. One complete collection phase timetable needs to be developed.

3.1 Management Information

Recommendation 15: Management information is required by December 1995 (8 months prior to Census date).

It was agreed that management information was required prior to Divisional manager recruitment. Issues discussed included Supply of Maps (linking maps & GDB info, and likely spin-off from automated mapping system including direct access by states); Budget information (staffing profiles to be provided earlier), Assessed travel time and Divisional profiles (CDATA used for Div profiles).

3.2 Census Operations

Recommendation 16: CMU should have a final copy of all Census documents, management forms and DM training packages by December 1995.

This recommendation was accepted. It was also noted that CMUs needed a copy of all field forms. These should be appended to the CMU manual.

3.3 Recruitment

Recommendation 17: Timing of DM adverts and recruitment programme be brought forward two weeks.

The 1991 recruitment programme resulted in a shortage of good DMs in some rural areas in most states. These areas can not always be predetermined. States felt ads in rural areas for DMs had no effect in some instances. There was general concern that the timetable already allows five months between advertisements and start of duties.

It was agreed that the timetable could be extended by one week.

3.4 DM Training

Recommendation 18: Bring forward portion of first DM training session.

It was accepted that DMs should receive face to face training on the commencement of their duties. This training would help negative reaction to material - excessive bureaucracy. This should also allow them to set up their own network. It was thought that bringing first two day session earlier is too much too soon. The DM training program will need to be revised accordingly.

NZ brings in on first day. They have about seven days in total. After initial, then one day each month

3.5 Group Leader/Collector Recruitment

Recommendation 19: Review Group leader and collector recruitment timetable.

Discussion focussed on need to conduct Group leader / Collector recruitment as two separate streams. Detail discussion on this issue was held over to the Recruitment session (session 10).

3.6 Special Collectors

Recommendation 20: Extend recruitment timetable by at least one week. Alternatively we should examine Special collector recruitment becoming a Group leader responsibility.

It was accepted that Special collector recruitment become a Group Leader responsibility. This additional task will need to be incorporated into the GL timetable.

3.7 Despatch And Return (DART)

The DART timetable was considered appropriate. DAS provided a good service and generally things went smoothly. The main exception was materials required for NPDs.

Recommendation 21: DAS deliver GA/GB packs directly to Group leaders.

This recommendation was accepted. It was generally felt that these materials did not need to be delivered via the Divisional Manager. Material could be sent through Australia Post. A separate DAS delivery was considered too costly.

3.8 Delivery and Collection of Census Forms

Recommendation 22: Start delivery of Census forms earlier.

Discussion focused on delivery problems in 1991 due to bad weather and insufficient daylight hours. It was argued that two weekends for delivery would help this situation. NT felt that forms delivered early would be more likely to be lost/thrown out etc. This could be overcome with more publicity at delivery time.

This issue was not resolved. It is important to establish Census date for 1996 prior to determining appropriate changes to delivery and collection timing. It was generally accepted however that two weekends should be included within the delivery timetable.

Recommendation 23: Commence paid television advertising earlier.

It was agreed that paid TV Census advertising should commence before collectors start delivery.

Recommendation 24: Stress importance of finalising collection by August 17.

This recommendation was accepted. Field procedures became problematic when collectors had not completed pick-up within the allocated period.

Recommendation 25: An alternative would be to "Alter Census night and shorten delivery and collection phases.

Discussion covered several alternatives and combinations of delivery and collection timetables. There was consensus that the collection period be as short as possible. No other conclusive outcome was agreed to. Issues that should be considered include:

- If Census night a Thursday then Thursday night shopping might be a problem
- This may not be an issue in 1996, as shops will probably be open every night
- Need to provide a week period for training
- Instructions should specify that training be as close as possible to delivery start
- Once trained, Collectors keen to get out. If start on Friday or Saturday, training would be weekend before unless specified during the week before
- could leave longer delivery period and shorten collection

3.9 Pays

Discussion focussed on problems experienced by all states in maintaining payment timetables. It was generally considered that insufficient time was allowed to complete input forms and turn-around time in timetable not realistic. There was also discussion on the payment timetable conflicting with other field operation tasks and deadlines.

It was recommended that the payment timetable be reviewed to take account of these problems. It is essential that the payment timetable be incorporated with the main collection phase timetable.

4. DIVISIONAL MANAGER, GROUP LEADER AND COLLECTOR PROCEDURES NOT ELSEWHERE INCLUDED.

Recommendation 26: Establish regional offices for groups of selected Divisional Managers to operate from if there are relevant efficiencies

This recommendation was not accepted.

Discussion centred on the professionalism of having DMs work from home and personal preference of individual DMs. It was decided to leave standard procedures as they are with an option of providing office accommodation if practical and desirable.

Recommendation 27: To assist in the delivery and collection of materials establish a certain GL (perhaps two in rural divisions) as contact points for all GLs within the division.

This recommendation was not accepted.

Recommendation 28: Consider appointing selected GLs in divisions with large numbers of NPDs to reduce workload.

Discussion of this recommendation was deferred until session 12 - Non-Private Dwellings

Recommendation 29: Reference to Divisional Clerk duties needs to be part of advertising and recruitment of Divisional Managers.

This recommendation was not accepted.

However, out of the discussion it was agreed that we need to:

- clearly define the role of the Divisional Clerk,
- provide a list of possible Divisional Clerk duties,
- provide a more accurate account of payment,
- undertake analysis of Divisional Clerk hours to determine more accurate hours.
- alternatively look at allocating a budget to be used by DMs to gain assistance.

Recommendation 30: Appoint an organisation and methods consultant to review the administrative system involving the design and flow of forms.

This recommendation was not accepted. A need for this review to occur was recognised, but this could be handled by ABS staff.

Recommendation 31: Design a comprehensive flow chart for the administrative system and distribute relevant components to appropriate levels of staff involved in field operations.

This recommendation was accepted.

Recommendation 32: Design comprehensive timetables and fully indexed reference manuals for all levels.

This recommendation was accepted.

Recommendation 33: Separate advertising for Group Leader positions brought forward to allow sufficient time to assist in recruiting Collectors and reviewing the division especially NPDs.

Refer to item 10.

Recommendation 34: Group Leaders to play the major role in negotiating with NPDs.

Discussion of this recommendation was deferred until session 12 - Non-Private Dwellings

Recommendation 35: Suggest that Divisional Managers hold meetings with their Group Leaders prior to Census Night to reinforce procedures and a debriefing session at the time of dropping off their material.

This recommendation was not accepted. Refer to item 11.

There were reservations that a formal meeting scheduled for the day before or census day would conflict with existing Group Leader duties (Record Book check).

Recommendation 36: Refusal follow-up by Group Leaders to be re-emphasised and letters reviewed.

Discussion of this recommendation was deferred until session 16 - Refusals.

Recommendation 37: Drop S6 (Follow-up Card) and establish a more efficient follow up system.

This recommendation was accepted.

It was agreed that some type of system is needed to monitor forms that are due to be mailed back in the field. The system of reminder letters (S6) to households was not designed to monitor the mailbacks.

Recommendation 38: Later Collector recruitment to minimise dropout rate.

Discussion of this recommendation was deferred until session 10 - recruitment.

Recommendation 39: Payment of interim pay to all Collectors.

Discussion of this recommendation was deferred until session seven - Payment Systems

Recommendation 40: Reinforce the basics in training.

Discussion of this recommendation was deferred until session 11 - Training.

Recommendation 41: The following procedures be tested to establish if they can be incorporated into procedures for the next Census; shorter delivery period, two calls during delivery to maximise contact, shorten collection, leave a call back card at every dwelling, and check details of number of occupants at collection.

This recommendation was accepted, with the exception of the shorter delivery period.

Recommendation 42: Review the role of the Divisional Clerk and determine clear duties and skills. Provide guidelines on distribution of duties to Divisional Clerks.

Refer to Recommendation 29.

Recommendation 43: Provide Divisional Clerks with appropriate training and documentation.

This recommendation was accepted.

Recommendation 44: Drop reserve positions in all but known problem areas.

It was agreed to drop reserve Collectors, but retain reserve Group Leaders who would be offered Collector workloads.

Recommendation 45: promote the local Divisional Manager with relevant Post Offices as possible source of recruitment and to ensure prompt assistance during the course of the census.

This recommendation was accepted.

Recommendation 46: Advertise the delivery and collection period more widely.

Discussion of this recommendation was deferred until session 17 - Public Relations.

Recommendation 47: Personal safety to receive greater emphasis in the 1996 Census.

This recommendation was accepted.

Recommendation 48: Problems with NPD list to be fixed for next Census.

Discussion on this recommendation deferred to session 12 - Non-Private Dwellings

Recommendation 49: Liaison with NPDs be carried out by the Group Leader and that Collectors undertake the enumeration of NPDs as part of their workload.

Discussion on this recommendation deferred to session 12 - Non-Private Dwellings

Recommendation 50: A Group Leader be appointed in specific areas to look after concentrations of large Non-Private Dwellings.

Refer to item 12.

5. EVALUATION OF CENSUS FORMS AND INFORMATION BOOKLET

The conference was told that the household form, personal forms and information booklets were a success and that we should be confident of good quality data resulting. It was acknowledged that most of the suggested changes in this paper were marginal.

The main discussion points were as follows:

The need to have instructions for correcting mistakes included on the front of the census form - the conference agreed that the balance of essential information on the front of the form is already at the maximum and that no further information should be put on the front of the form i.e. any material added to the front page should be at the expense of existing information;

The need to review the screening background colour to facilitate easier reading by the elderly and people with visual handicaps;

The need to use significantly different colours for all form types;

The need to review the content and style of the remote area forms;

The need for the bureau to provide a more common sense, less defensive type response to the question - Why does the ABS need to know people's names?

The possibility of including a more extensive range of answers for the labour force questions as a result of public attitude to the 1991 range in which retired people or house persons felt left out.

6. LEGAL ISSUES

6.1 Tampering With ABS Property by Persons Other Than Commonwealth Officers

Recommendation 51: It is recommended that should an appropriate opportunity arise during the intercensal period the matter of tampering with ABS property by persons other than Commonwealth officers should be re-examined.

Accepted.

6.2 Forms Left Outside for Collection

Recommendation 52: It is recommended that training and field procedures documentation emphasis that forms should not ever be left unattended for collection. This is preferable to imposing a financial disincentive on Collectors proven to have asked householders to leave forms out for collection.

In addition, as suggested in the 1986 Legal Issues report, the Census publicity campaign, information booklet and/or the census form should highlight the dangers of this practise.

This recommendation was accepted.

The conference considered this was the best way to deal with the issue.

There was some concern that these options may cause problems in rural areas where it was convenient to collect forms left outside.

The supply of envelopes with the forms was suggested, however it was not considered suitable as the probability of mail-back could increase. It was also suggested that a clear statement warning the householder of the dangers of leaving the form outside should be included on the front of the form. This was also seen as impractical as the front of form already appeared 'cluttered'.

6.3 Employment Issues

Recommendation 53: Steps need to be undertaken to amend the legislation to ensure that persons engaged by the Statistician are caught by the definition of 'officer' for the purposes of the CSA. the opportunity could also be undertaken to amend the legislation to ensure that receipt of payment is not essential for persons engaged by the Statistician to be 'officers' for the purposes of the CSA.

This recommendation was accepted.

Recommendation 54: The solution to the problem of compensation for damage caused by a Collector's vehicle is to include a statement in the terms of employment to the effect that the Commonwealth is not responsible for damage TO or BY a Collector's vehicle.

This recommendation was accepted.

6.4 Prosecution Issues (Refer also to Item 16)

Recommendation 55: Future documentation should state procedures more clearly on the issue of a respondent supplying false or misleading information.

This recommendation was accepted.

Recommendation 56: It is recommended that State Government authorities, such as electricity and water authorities, be approached to access information from their records. This is preferred to using the Habitation Index.

This recommendation was accepted.

Recommendation 57: The use of process servers is the preferred method of delivery of NOD in difficult cases.

This recommendation was accepted.

Recommendation 58: The design of the NOD be reviewed, incorporating form design principles in layout; investigate the effectiveness of enclosing an explanatory letter with an NOD.

This recommendation was accepted.

It was pointed out that the layout of NOD was not appropriate for householders as the language used could be difficult to understand. The use of plain English was suggested as a means of overcoming this.

7. PAYMENT SYSTEMS

This paper outlined the general problems with the 1991 payment system and provided a number of directional options for discussion.

There was some discussion of the general perception of 'how things went with pays'. Overall, the problems reported in the paper were accepted. In particular, that the timing was too tight, there was too much paperwork and the payment system did not tie in well enough with the collection system (both in terms of timing and functions). It was noted that the problem associated with workload (sampling) dwelling counts was due to the fact that this was a specification added to the system at a later date.

Although the 1991 payment system was seen as having many shortcomings it was recognised that the system did the job, albeit at the expense of considerable resources and pressure on the staff involved.

Recommendation 59: Option five - An automated computerised management process for Divisional Managers incorporating the payment system be adopted for 1996.

The general tone of this session and the overall conference was to develop an automated management system for DMs. It was recognised that a micro based system would provide the most appropriate interface for DMs. For payments the system would either generate cheques or provide automated input to DoF or a Commercial payment system. The GDB was seen as the initial source of data for an office automation system with other field documents feeding progressively into it.

Although Option five was accepted as the preferred overall system, it was accepted that it may only provide automated front end operations for the payment system. It may still be necessary to have a separate operating system. Discussion on each of the other options follows:

Option 1. Stay with a commercial pay bureau such as Ferntree.

This option was not supported. It was thought that the 1991 problems would not be overcome and we should investigate other options. It was however accepted that if everything else fails then this would be a fall back option.

Option 2. Sub contract another organisation such as AEC to prepare our cheques.

The AEC system was discussed. The major benefit was seen that cheques could be despatched on a division by division basis which should reduce the delay between completing duties and getting paid. It was pointed out that the AEC system was on-going whereas the Census was quinquennial.

Two reservations were expressed about this option:

- If an election was called then the ABS would be, understandably, relegated to second place.
- We still will need to fit in with an established system.

South Australia are to continue investigations into AEC methods.

Option 3. Purchase a suitable micro or mainframe computer pay system.

In considering this option we should not let hardware limit our options. We should look at what organisations like Progress Press and Salmat use to pay their people. Garth Donaldson mentioned the Victorian State Returning Offices system. We could also look into 'buying' the AEC system.

Option 4. ABS develops an in-house computer system to pay field staff.

The PSO system was discussed. There were timing considerations which prohibited using the PSO system for Census 91. It was noted that the PSO system interfaced with the DoF system. We should consider this option for Census 96.

Option 6. DMs produce cheques.

States considered this option was timely and should not be discounted if a better system is not found. CO were concerned about potential abuse and auditing this system. Overall it was considered to be a viable option and should be left open to investigation.

Other Payment Issues

Interim Payments

Two options for payment were put forward.

The first involved an initial payment 2 - 3 weeks after the Census (say 75%) followed by a final payment. Interim payments in hardship cases prior to the Census. This option was supported by NSW, Vic., WA, Tas. and ACT.

It was noted that this option would require careful investigations into bust CDs when establishing the amount to be paid. This was also noted as an 'additional task'.

The second option was that no interim payments (except in real hardship cases) be made if we can pay within four weeks after Census. This option was supported by Qld, SA and NT.

Concern was expressed that with option 2 we are still talking about 7 weeks after starting work. The general feeling was it is important to have a timely payment system. Option 1 best addresses this issue.

Taxation was discussed as a major problem. Basically we have to do what tax says. However, we need to look at what we tell people and how we explain it. We should design one form with all options. While we provide the option of paying no tax we are not obliged to provide this option. While Tax file numbers were a major problem this Census, it was felt that by the next Census this would be less an issue.

Superannuation

The question was raised as to whether we should/could adopt a cash payment procedure. Given the small amounts involved and large clerical effort required it was felt that we should move in this direction.

NZ default to a cash payment with regard to Super.

Glenn Cocking commented that with regard to tax and super, etc. it was the responsibility of management to talk to the organisations concerned and make life as simple as possible for us.

New Zealand Payment System

Ray Middleton gave a run down of the NZ method. The main points are as follows.

1. DMs are paid fortnightly by direct credit.
2. They use a package called SMART and load data on mesh blocks. They use this to deduce the estimated dwellings.
3. Add name/address when collectors are employed.
4. Send tape directly to bank.
5. Collectors paid 75 per cent (of estimated dwellings) at first payment (end March) and balance on 18 April. Census day was 6 March.
6. Fortnightly pays for area supervisors. Paid same amount.
7. No real problems with overpayments.
8. Predetermined kilometres for rural collectors then adjusted if necessary.
9. Tax everybody 15 per cent regardless of circumstances.

10. No Super or anything like that.
11. Selection criteria includes 'bank account'.

Glenn Cocking commented that we had a lot to look into and that it was important to get the ball rolling early as has already occurred with the mapping tender.

8. REMUNERATION RATES AND ALLOWANCES

Recommendation 60: That remuneration rates and allowances for temporary Census staff be reviewed prior to the 1996 Census.

It was agreed that current position levels (hence hourly rates) are acceptable, however assessed hours paid for should be reviewed. It was recognised that changes in procedures for Census 96 would necessitate a review of assessed hours paid for all temporary field staff.

Issues

- (a) Mr Paice indicated that unions had been involved in discussions for the 1991 Census on position levels set by ABS and approved by the Department of Industrial Relations (DIR). In the end payrates are an ABS decision. There are two aspects to a remuneration review: hourly rates and the number of hours worked. It is important for the ABS to get the assessed hours fair and reasonable.

Mr Cocking commented that ABS does not have a case to go beyond government wage fixing principles in upgrading classification levels for collectors from ASO1. There is no real change in the work value since the last Census, even though some aspects of collecting may be more difficult.

There was some debate over the extent to which the ABS should recompense field staff for difficult working conditions such as no provision for tea breaks, no toilet facilities, no sick or recreation leave and exposure to elements.

The conference's view was that the levels for Group Leaders and Divisional Managers were appropriate.

- (b) A proposal was made that the work of the hotline operators is comparable with ASO2 clerical staff.

This issue was not accepted.

Some dissension was expressed amongst conference participants on the relative levels of work of hotline operators and collectors, both of whom are currently paid at ASO1 level. While it was agreed that hotline operators do tend to get the more difficult queries and agitated callers, it was also noted that collectors face collection hazards and difficulties of their own. It is difficult to compare the work in the field (collectors) with work of hotline operators.

Mr Cocking noted that it seems difficult to justify paying greater than the ASO1 level to collectors and hence hotline operators when work value is considered and in comparison to PSO interviewers.

- (c) Hotline operators should be paid for the nature of the hours they work. They should be paid either a percentage loading to cover evening and weekend work or such work should be paid at penalty rates.

This issue was not accepted. The conference discussed the issue of paying a loading to cover unusual hours but agreed that this was not appropriate.

- (d) The hourly rate for Divisional Managers is at the right level.

This perspective was accepted.

- (e) The hours paid for Divisional Managers is, even with the additional payment made, on the conservative side and not an accurate reflection of the effort required of an average efficient DM.

The conference acknowledged anomalies with DM assessed hours and the parameters that derive them. It was noted that regardless of the system put in place we would always have an anomaly.

It was agreed that DM assessed hours would be reviewed. The remuneration paid as a flat rate compared to the amount paid for special cases such as the number of collectors and special collectors, should also be reviewed.

The conference noted that the proposed new Management Information System for Divisional Managers may reduce their workload.

In New Zealand, Divisional Managers receive full time salary for 7 months plus 7.5 per cent loading in lieu of overtime.

- (f) Group Leaders are generally dissatisfied with their level of payment. They have a pivotal role in the Census and it is essential that their pay reflects both the level of their input and their effort.

This position was not accepted.

The conference noted that Group Leaders are paid according to the number of collectors under their direction. No factor is included for the replacement of staff or re-running of training courses for replacement collectors.

The conference noted that generally Group Leaders seem to be fairly dissatisfied with the pay they receive. It was reported that approximately 20 per cent of Group Leaders in Tasmania had complained of poor pay. This was accepted by SA but not by WA or the ACT, while in NSW this was mentioned at debriefing sessions but not seen as a major issue.

- (g) For collectors, the rate for unoccupied dwellings should be increased.

It was agreed that the rate for unoccupied dwellings should be reviewed.

The conference noted that unoccupied dwellings take up to 5 callbacks. The amount paid for the effort required for unoccupied dwellings needs to be looked at.

Concern was expressed that the rate for unoccupied dwellings should not necessarily be seen to be the same as occupied dwellings otherwise collectors may lose the incentive to get the occupied dwellings.

- (h) The motor vehicle allowance for mixed urban/rural CDs needs to be addressed. It is a common complaint that collectors in such CDs are not adequately compensated for the long driveways, the callbacks, etc.

The conference agreed that the motor vehicle allowance for mixed urban/rural workloads needs to be addressed as it appears inequitable currently. Motor Vehicle Allowance in these instances should be based on procedures for rural collectors. This would better reflect actual distances travelled.

This recommendation also instigated discussion on the question of assessed travel time for Rural Census collectors. Assessed travel time based on 1986 variables was noted as insufficient payment in many instances. It was pointed out that a 1986 variable for travel time was used in 1991 to assist in budget management. There was also concern of overspending if the system was changed to an assessed travel time (actual kms travelled x variable) as was used for Group Leaders.

It was agreed that in Rural areas the assessed travel time payment method for collectors should be based on 'actual kms travelled' x 'variable'.

- (i) There is a feeling among the collectors that the job is more demanding than it is portrayed and as such is underpaid.

This issue was discussed earlier in this session.

- (j) Remuneration offered for collector positions affected the number and quality of applications received. This response needs to be considered when assessing levels of payment.

This perspective was not accepted and appears inconsistent with the Collectors Survey.

- (k) Special Collectors are not properly compensated for the effort required to complete personal forms or by interview.

This perspective was not accepted.

It was noted that the 1991 payment system allowed two payment rates and additional payments could be claimed in extreme cases.

- (l) Translators payment appears too low.

This position was not accepted.

It was accepted that as a fall back option we may need to contract an organisation such as DILGEA and pay a higher rate.

- (m) Collectors should be paid an interim payment immediately after the collection phase is complete.

This recommendation was discussed in session 7.

Recommendation 61: That all field procedures be reviewed to increase efficiency in relation to time consuming tasks carried out by DMs and GLs. Procedures should be simplified in line with DM and GL suggestions obtained from de-briefings and reports.

This recommendation was discussed in session 4.

Recommendation 62: Examine preparing budgets for each division and look at providing DMs with more autonomy in financial control of divisions.

This recommendation was discussed in session 9.

Recommendation 63: Ensure that all field staff receive fair remuneration and allowances commensurate with complexity and time spent on the tasks performed.

This recommendation was discussed earlier in this session.

9. FINANCIAL MANAGEMENT

Recommendation 64: Input from 1991 be used as a base for setting Estimates for 1996.

This recommendation was accepted.

Recommendation 65: Attempt to allocate 1991 expenditure at divisional level.

This recommendation was not accepted.

The general feeling was that this would consume too many resources and be of limited value. SA reported that they hired someone with extensive finance experience which was very useful and they did not think that it was necessary to break up expenditure at divisional level.

Recommendation 66: Spreadsheets be provided for estimates input that show 1991 expenditure and are also complimentary in design to DoF and ABS Finance Reporting Systems.

It was accepted that CMUs required access to a timely and detailed financial reporting system.

It was proposed that these be set up at the beginning of the budget cycle and reflect the same structure as the Financial Ledger. They would be maintained throughout the next Census and into the subsequent one - continuous recording.

There was general agreement that there were problems with the current system - not enough detail, only totals, etc. It was acknowledged that more specific reports were available from the ABS finance system, however CMUs were generally not aware that they existed.

NT pointed out that in the smaller states the Census budget could be up to half the ABS budget therefore it was essential to have accurate reporting systems on which to base planning.

Recommendation 67: Control Form 100 be redesigned to show items of expenditure and their \$ value.

This recommendation was accepted.

NSW considered it would be useful to get DMs thinking about a budget for their division. However we should provide dollar values for them to work to. We should outline to DMs what should be considered reasonable expenditure in certain cases - this could be done on some sort of pro-forma.

It was pointed out that in 1986 there was a dollar value provided but DMs found it very difficult to estimate at that stage and so it was removed for this Census. It was noted that in 1986 these values were estimated, however an estimate was better than nothing.

Recommendation 68: A comprehensive set of appropriation codes be established with State input and regular reporting take place within State Offices.

(NSW) States should have input into the list of appropriation codes provided (structure, name of codes etc). Clear guidelines should be set to avoid situations such as difficulty in coding of expenditure for training venues (esp where paid for by AGCC).

Recommendation 69: Further consideration be given to the benefit of establishing and maintaining a database or spreadsheet of all division expenses.

It was not accepted that detailed comparisons with the previous Census at the Division level were necessary.

Recommendation 70: Procedures involved in issue and/or alteration of AGCC be streamlined to ensure prompt issue at commencement of field operations.

It was general consensus that AGCC cards were essential for CMUs, Divisional Managers and Census Field Officers. Procedures to ensure timely supply of cards will be built into the 1996 timetable.

Recommendation 71: AGCC monthly closing dates and coding of items of expenditure need to be explored with the issuing bank.

It was accepted that the timetabling of DMs expenditure reporting and accounts received from the bank needed to be aligned. Most states considered that detail provided on the bank statements was adequate.

Recommendation 72: DMs manuals need to be clear that AGCC is the preferred method of paying accounts.

This recommendation was accepted.

Recommendation 73: Improve procedures in CO of allocating and transferring funds to CMUs and the communication process.

This recommendation was accepted.

States all experienced problems in transfer of Census "Warrant". The communication/advice/reporting links between CO (Census/Admin support/Financial management) and States (Financial management and Census) were considered poor. It was endorsed that better communication and procedures are needed for the next Census.

Recommendation 74: Issue cheque books linked to AGCC to CMU staff to pay accounts if necessary

At this point an attached cheque account was not seen as necessary.

One of the main problems associated with AGCC cards in 1991 was that it was not accepted in all instances. An attached cheque book would overcome this problem. It was thought that the main reason for not accepting the card was retailers did not associate with AGCC. However if we had presented the card as a Master card then there may have been wider acceptance. It was also accepted that card holders had access to cash advances to pay for items if the card was not accepted.

Recommendation 75: Introduce a system of direct deposit to field staff bank accounts for travel expenses.

It was noted this facility would be very beneficial and will be investigated for the next Census.

Recommendation 76: Improve documentation on financial delegations and responsibilities in State Office Manual

This recommendation was accepted.

It was recognised that delegations were a problem - especially with the devolution of responsibility.

Recommendation 77: Larger states to consider the advantages of setting up a specialist finance team within the CMU to handle all financial matters including pays.

This recommendation was accepted. Finance experience should also be taken into account in the recruitment of CMU staff.

Recommendation 78: Documentation needs to be available earlier on financial procedures and practical training in their usage to be provided.

This recommendation was accepted.

10. RECRUITMENT

10.1 Divisional Managers

Recommendation 79: Run a similar campaign for the recruitment of DMs that was conducted in 1991.

This recommendation was accepted.

It was pointed out that advertising in regional papers would be beneficial in some areas to complement approaches to key organisations such as local governments.

Recommendation 80: Establish a liaison with State Electoral Offices in each state (if appropriate).

This recommendation was accepted.

Recommendation 81: Include CES offices and larger municipalities in the recruitment of DMs.

This recommendation was accepted.

Recommendation 82: Be more factual and realistic in the hours and description of the duties of the DM as described on the Information sheet, emphasise on the Application form and explain during the interview.

This recommendation was accepted.

Conference suggested that the place the issue needs to be strengthened the most was at the interview stage.

Recommendation 83: Information sheet to advise that ABS is an equal employment opportunity employer and that DMs are expected to work within these guidelines.

This recommendation was accepted.

Recommendation 84: Be aware that with early retirement of middle and senior management, the quality of DM applicant in 1996 is likely to be very strong. Expand the DM recruitment timetable to accommodate 5 interviews per Division.

The conference made no decision concerning the number of people interviewed for each Division.

The conference agreed that it was not practical to lengthen the recruitment period. Discussion centred on the need to increase the number of interview panels to enable all acceptable applicants to be interviewed. No formal number of panels was agreed upon as it is dependant on other state office staff, not just CMU staff.

Recommendation 85: Maintain the security checks on DMs.

This recommendation was accepted.

Recommendation 86: Unsuccessful applicants to be invited to apply for GL/Coll positions.

Consensus was not reached on this issue. Any approach to those considered acceptable would need to avoid an inference that a job was guaranteed.

10.2 Divisional Clerks

Recommendation 87: Detail duties of DC using an information sheet and selection criteria.

This recommendation was accepted.

Recommendation 88: DM to select DC based upon ABS selection processes.

This recommendation was not accepted.

Given that the DC generally needs to work in the DM's home the current practices should be retained. The ABS should be prepared to live with the possible criticism.

Recommendation 89: DC to work from DM home, or nearby.

This recommendation was accepted.

Recommendation 90: Formal training on the more detailed duties of DC, e.g. Pay System.

The conference agreed in principle to this recommendation however recognised it would be dependant on resources and the nature of DC duties in the next census.

Alternatives that were discussed included computer assisted training and formal training by the Divisional Manager.

10.3 Group Leaders and Collectors

Recommendation 91: Conduct separate GL and Coll recruitment campaigns. This would allow for more G/L "hands-on" in collector recruitment.

This recommendation was accepted. Another benefit would be the recruitment of Collectors closer to the commencement of their duties and so a lower drop out rate would be expected.

Recommendation 92: Distribute application forms through post offices and CES offices.

This recommendation was accepted.

Discussion centred on the effectiveness of these two agencies and scope for improvement. Some suggestions were; a 008 number in smaller states for requesting application forms, supplementary outlets such as newsagents and liaison with the agencies being undertaken at the state level rather than having it centralised.

Recommendation 93: Unsuccessful GL applicants to be notified soon after the decision has been made, with invitation to make themselves available for Coll selection.

This recommendation was accepted.

It was proposed that Group Leader applicants be questioned at the interview as to whether or not they were willing to do a Collector workload.

Recommendation 94: Use the same broad advertising campaign to attract the general response.

This recommendation was covered in session 17 - Public Relations.

Recommendation 95: Focus on regions where, in the past, response was not adequate by using local advertising, CES and DM involvement.

This recommendation was accepted. Refer also to item 17.

Recommendation 96: Develop a street locality type index to sort application forms by CD.

This recommendation was not accepted.

Discussion centred on other possible sources, such as the AEC. It was evident that this issue is not a problem in all states. Other ABS systems may be useful to sort to a higher level of geography.

Recommendation 97: Develop the scoring system to allow fair consideration for applicants without work history, but have suitable availability.

This recommendation was accepted.

Other options for dealing with the problem included; highlighting on application form the value of all previous work experience, list home duties and voluntary work as desirable experience and, if separate campaigns are run, introduce a separate scoring system for Collector applicants.

Recommendation 98: Use previous ratings of field staff within Public Service guidelines.

This recommendation was accepted.

Recommendation 99: Include in GL training instruction on interviewing technique, ABS standards, and specific examples of 'do's' and 'don'ts' re EEO.

To the extent that priorities allow, these issues should be covered in training.

Recommendation 100: Investigate the possibility of security checks on successful applicants.

The two main issues are to guarantee the quality of our field staff and to be seen to be taking the issue seriously. Consider using wording from DM application form to enable a sample of collectors and group leaders to be subject to police checks.

10.4 CMU Recruitment

There is a need for people with a finance background to be recruited to the CMU - Refer also to Item 9.

11. TRAINING

11.1 Training of Divisional Managers

Recommendation 101: Census Management Units to remain responsible for training Divisional Managers.

There was general agreement that CMUs should remain responsible for training of DMs. NSW requested that all training documentation be provided electronically to the CMUs to enable them to modify the training to local needs.

Recommendation 102: Retain the concept of 'Train the Trainer' for Census 96 with the following modifications:

Reduce and/or be flexible with the theoretical component of Train the Trainer. Outline at the first session that each Divisional Manager is to present a segment at the second session and is to prepare accordingly. Have available material for the Divisional Managers who wish to brush up on their skills.

Retain the practical component where Divisional Managers present sessions.

There was general agreement with the concept of 'Train the Trainer'. While there was some discussion about the pressure which the approach put on DMs, it was agreed that the aim was to equip DMs to provide a good example of training to their GLs. One modification suggested was to shift the balance between theoretical and subject matter components more towards the subject matter component. That is, the subject matter would be seen as valuable in its own right. Video training was considered by some States a very important ingredient.

Recommendation 103: Census Management Units to retain the choice of whether to conduct residential training on the basis of whether the benefits justify the cost.

Accepted.

Recommendation 104: Arrange for material to be delivered to Divisional Managers in a user-friendly sequence.

Accepted.

Recommendation 105: Investigate a computer-assisted training program.

Any micro-computer system developed to include tutorial components, help command and detailed screen messages.

Accepted.

Recommendation 106: Personnel Development Section to continue to act as consultants.

Accepted, although there was some variation in views about the extent of involvement that Personnel Development should have in the training program.

NSW added that they would like to see the schedule allow more time for making all the arrangements necessary.

Asked about NZ's approach to training, Roy Middleton said that their area managers had a three day training course when they commenced including each having to deliver a training session.

11.2 Training of Group Leaders

Recommendation 107: Split the training of Group Leaders into two sessions subject to cost issues being resolved.

There was general support for the recommendation but it was recognised that it might not be appropriate in some circumstances. Discussion focussed on:

- there would be a benefit in reducing 'information overload' in the early stages.
- GLs should get the information they need at the right time.
- flexibility was necessary because of wide variation in circumstances.
- it would be difficult to arrange two sessions in some rural areas.
- cost-effectiveness needed to be considered.

It was agreed to look at the issue of training replacement staff at short notice. One suggestion made was to make a video of a GL training session for use in the event of drop-outs.

11.3 Training of Collectors

Recommendation 108: Split training of Collectors into a delivery session and a collection session subject to cost issues being resolved.

There was a fair amount of discussion about whether splitting collector training into sessions was a good idea without a clear consensus emerging.

There was a need to consider the possible impact of a separate proposal to alter collectors' responsibilities (2 calls on delivery) with a shift in emphasis between delivery and collection loads.

NZ have two sessions for collector training but there are frequently difficulties in finding a suitable time for the second session. Most area managers already have to train collectors in two groups because of numbers and there is a 10 per cent retraining factor as well. On balance Roy considered two sessions beneficial but it was not without problems or cost.

It was agreed that the recommendation should be further explored as it was not clear whether the benefits would outweigh the costs.

11.4 General

Recommendation 109: Divisional Manager, Group Leader and Collector training sessions are to have a maximum of twelve participants.

It was agreed to adopt a guideline of 12 people per session. However it is difficult to draw a line to cover all circumstances. We need to provide more guidance in training manuals about training arrangements.

There was some discussion about the appropriateness of using homes for training and it was agreed that manuals should include advice to avoid unsuitable home venues (e.g. they should have adequate writing space and be free of distractions).

11.5 On the Job Training

Recommendation 110: On the job training is an essential part of quality control during the Census and should be retained at both delivery and collection. The decision not to accompany a Collector should be at the discretion of the Group Leader and be based on a Collector's experience and distance to be travelled.

It was unanimously agreed that this is an essential element.

It was decided to strengthen the recommendation as drafted by making exceptions only at the discretion of the DM.

11.6 Content

Recommendation 111: Retain information on why we conduct the Census and its uses in the training to enable Collectors to discuss these issues with householders. Examine the extent to which it is included with the major emphasis for these points to be covered in a short video.

Accepted.

Recommendation 112 : Actual practicalities of Collectors' duties be incorporated into training at the expense of some of the straightforward delivery and collection procedures. This may be achieved by discussing time management with Collectors, using hypothetical scenarios and drawing upon the experience of previous Collectors if available.

Accepted. Guidance on time - management would be beneficial to collectors.

Recommendation 113: In training the rationale for Census questions will automatically have a lower priority than procedures, however Collectors should be encouraged to self-learn information through the section in the Collector

Manual dealing with the questions. Instead of having this information hidden in the manual, issue each of the field staff with a booklet that highlights the reasons why data is collected and provides answers to commonly asked questions.

Accepted. A separate copy of the Inquiry Guide could be the answer to the collectors' need for information about the rationale for census questions.

Recommendation 114: Enumeration of Non-Private Dwellings is to be totally reviewed, any change in training procedures will depend on the outcome of this review.

Accepted.

11.7 Main Training Aids

11.7.1 Home Study Exercise

All the following recommendations were accepted.

Recommendation 115: Continue to use the Home Study Exercise as a training aid.

Recommendation 116: Investigate alternative blocking procedures.

Recommendation 117: Issue the actual CD map to Collectors for their Home Study Exercise and transcribe the final version of the blocked map which has been approved by the Group Leader onto the Record Book map.

Recommendation 118: Review content of Home Study Exercise in identified problem areas such as map blocking procedures and Record Book checks.

Recommendation 119: Change the timetable to allow the return of completed Home Study Exercise to the trainer and its assessment before the training session.

11.7.2 Flipcharts

Recommendation 120: Depending on the material to be presented, some type of large printed display board be used to demonstrate written procedures. Participants will then be able to complete parts of the enlarged workbook in view of others.

It was agreed that the flipchart be replaced by a more suitable form of display such as a laminated enlargement of a record book page. Being able to display completion of the record book was the critical section of the Flipchart.

11.7.3 Collectors Game

All recommendations were accepted.

Recommendation 121: Retain and expand the use of the cards.

Recommendation 122: Also a theme through the feedback is that Collectors need more 'practical' examples. We could use cards to introduce hypothetical problems and have the preferred answer on them. Group Leaders could screen cards before the session and use those most appropriate to their Subdivision. The group could then discuss the situation and come up with a solution together.

It was agreed to drop the game but retain the cards and enhance their use.

Recommendation 123: Provide Group Leaders with more advice on how and when to use the training aids available to them e.g., video, charts and game.

11.7.4 Video

Recommendation 124: A video should be produced for the next Census and contain scenarios as in the video for 1991. Provide a more realistic blend of locations.

Accepted

Recommendation 125: The use of role plays of 'On the Doorstep' or similar be at the discretion of the trainer and trainees.

Accepted

Recommendation 126: Provide Divisional Managers and Group Leaders with more direction of when and how to use the video. If the video is used at the appropriate time and in the appropriate manner it can be our most valuable training aid.

Discussion focussed on the content of the video without directly addressing the recommendations.

There was clear support for the 1991 video although a number of improvements could be made. The main points to emerge from discussion were:

- an index with counter readings would be helpful in locating particular segments for training purposes.
- there is a need to give more emphasis to rural situations.
- the video should be more realistic in its representation of the weather and should be careful to always show good examples e.g. right kind of training setting.
- WA wanted to see the video provide tougher responses in refusal and 'brush-off' situations, but there was some disagreement about the need for this given that refusals are a rare event.
- while there was a request to deal with the dogs problem in the video there was a general view that there should not be too much emphasis on the 'dark side' of collectors' work. We shouldn't scare people off.

11.7.5 *Overhead Transparencies*

These recommendations applying to the training of GLs by DMs were accepted.

Recommendation 127: Continue to supply overhead transparencies as are relevant to the content. –

Recommendation 128: Aim for fewer overheads with less detail.

11.8. **Training of Census Management Units**

These recommendations were accepted, although there were no specific suggestions as to what needed to be added. While States could add supplementary training themselves the need for centralised control was accepted.

Recommendation 129: Explore further training for Census Management Unit staff at a detailed operational level. This is additional to the training conference aimed at staff who require an overview of events.

Recommendation 130: Retain the course which covers the Field Staff Payment and Financial System.

12. **NON-PRIVATE DWELLING ENUMERATION**

Recommendation 131: Greater priority should be given to maintenance of NPD lists, with Population Census areas in each office taking a custodial role in the updating process.

It was agreed that the quality of NPD lists needs to be investigated for future censuses.

The quality of the lists for 1991 was discussed and it was apparent that it differed between states and territories. The updating of the list from 1991 Census using page 34s should continue and each state should liaise with PSO regarding the ongoing maintenance of the lists.

For future updates we should investigate incorporating NPD list updating into the Divisional Manager micro system.

Recommendation 132: Procedures should allow households in Aged Person Accommodation and other NPDs that are typically occupied by families to use household forms rather than personal forms.

It was agreed that procedures for 1996 be altered to enable household forms to be used in family type situations which may involve using different form types in the one establishment.

Recommendation 133: Increase the role of the GL to include NPD list review, recruitment and training of Special Collectors and specific responsibility for the standard of enumeration.

Agreed.

Recommendation 134: Where possible, management of large NPDs should be offered Special Collectors from outside the establishment.

Recommendation 135: Where feasible, Special Collector recruitment efforts should be directed away from inside NPD staff.

The conference agreed to these recommendations in principle.

Discussion focused on the recruitment and training problems associated with employing special collectors from within NPDs. It was however recognised that management of NPDs should be given the option of having somebody from inside the establishment undertake the work - not just have an outsider forced upon them.

The payment rates for special collectors will need to be reviewed as persons from outside an establishment may take more time to complete the work in some cases.

Recommendation 136: In areas with a high density of NPDs, this influence on workloads should be given consideration in CD and Sub-Division redesign.

Accepted. In general this would mean that 1991 Census Sub-discussions with a significant number of NPDs would, in the 1996 Census be smaller in area. However, in some cases a specialist GL may be appointed to cover NPDs in several Sub-divisions.

Recommendation 137: The letter to large NPDs should include specific instructions regarding what was required of them - making an appointment at the management's convenience, recruitment and training requirements.

Agreed.

Recommendation 138: A higher profile should be given to the importance of selling the Census to the management of small and large NPDs. Training GLs in promoting the importance of the Census and production of an NPD brochure are the type of solutions needed.

Agreed.

Recommendation 139: More emphasis should be given to training of Special Collectors and a higher profile given to gaining the cooperation of NPD management.

Agreed.

One of the possibilities discussed involved developing Home Study Exercises for Special Collectors. If Special Collectors are recruited from outside establishments we will have more control over their training and could instigate formal training.

Recommendation 140: Greater emphasis should be placed on NPD enumeration for both Census field staff and the general public.

Agreed.

Recommendation 141: The colour of the NPD Summary Form should differentiate it from other forms.

Agreed.

13. ABORIGINAL AND TORRES STRAIT ISLANDER ENUMERATION

The conference accepted that the aboriginal strategy worked extremely well. The procedures were, and will be again, appropriate. We can build on current procedures and experience.

13.1 Enumeration Using Remote Areas Procedures

Recommendation 142: The flexibility provided in 1991 procedures be retained and that CMUs utilise the full range of procedures as appropriate.

This recommendation was accepted.

1. Identification of Target Populations

Recommendation 143: The CMU retain sole responsibility for determining target populations. All targeted areas should be readily defined (e.g. community, outstation, town/fringe camp, etc) before included. Standard procedures should be used in other areas with field interpreters assistance, if needed.

This recommendation was accepted. It was noted that literacy levels are the key factor in determining the appropriateness of remote area procedures.

2. Census Field Officers

(a) Recruitment

Recommendation 144: Selection Criteria for CFO's working in Remote Areas be amended to place equal importance on

1. Ability to relate to Aboriginal people.
2. Experience in Statistical Operations.
3. Proven Administrative Skills.

This recommendation was accepted. It was noted that 1991 criteria placed too much emphasis on CFOs ability to relate to Aboriginal people. CFOs who did not possess these other attributes often did not perform the full range of their duties.

(b) Role

Recommendation 145: CFO duties be extended to take full responsibility for establishing coverage (i.e. complete the Community Listing) during their second visit.

This recommendation was accepted. The CFOs role was generally considered to be appropriate.

Recommendation 146: CFOs resources concentrate solely on Remote Area enumeration. Additional temporary staffing is required to assist with other enumeration.

This recommendation was accepted. It was accepted that CFOs resources were stretched when required to organise standard enumeration procedures and that in general it should not occur.

(c) Resources

Recommendation 147: CFO resources are increased to 5 in the NT to efficiently cope with this workload.

Conference was not an appropriate forum for consideration of this proposal. Resources were considered adequate in all states except the NT. The NT should prepare a submission to increase CFO resources for 1996.

(d) Training

Recommendation 148: We conduct a combined workshop (2 to 3 days) for CFOs working in remote areas in 1996. Experience and knowledge from the Aboriginal Statistics Unit should be drawn on as appropriate.

This recommendation was accepted. A combined (states) workshop was seen as important as experience is often not retained in some states. This workshop should cover total training with additional local knowledge based training provided by CMUs.

Recommendation 149: A full schedule of training activities be incorporated into CFO documentation.

This recommendation was accepted.

(e) Field Visits

Recommendation 150: All states consider using a three visit approach to communities. This will not be necessary in all instances and we should estimate on the basis that Census forms are collected by CFOs at the community in 50 per cent (80% in WA) of instances.

This recommendation was accepted. It was noted three visits could normally be achieved in two trips. It was accepted that we needed to utilise the full flexibility as appropriate to the individual field situation.

3. Assistant CFO Role/Resources

Recommendation 151: ACFO resources be retained. The need for this resource is dependant on CFO experience, field safety and unforeseen field problems. The role of the ACFO should be left flexible, therefore allowing CMU to utilise this resource as needed. Estimates should be based on two ACFOs per state by 10 - 14 weeks each. This resource should be available through the standard temporary census staff system and utilised by CMUs as needed.

This recommendation was accepted.

4. Community Co-ordinators/Assistant Collectors

(a) Recruitment

Recommendation 152: Recruitment and payment procedures be updated to allow for contracting of communities/organisations to undertake Census collection.

This recommendation was accepted. It was acknowledged that this practice was used in some instances in 1991, however it was not common knowledge amongst State Offices that 1991 payment procedures include this option.

It was also acknowledged that in many instances low literacy levels and other ongoing Community activities lead to difficulties in finding suitably skilled people for Census activities.

(b) Role

Recommendation 153: CFOs take full responsibility for establishing coverage (i.e. completion of the community listing) regardless of literacy level of the Community coordinator.

This recommendation was accepted.

(c) Training

Recommendation 154: Provide more training aids and assistance to CFOs

The conference recognised the importance training of Community co-ordinators and assistant collectors plays in the overall remote area strategy. It was accepted that we should provide CFOs further assistance in preparing their materials. It was thought that this could be covered in a combined state CFO workshop.

(d) Payment

Recommendation 155: The payment system needs to be overhauled to account for the different problems encountered in remote areas. Payment needs to be more timely, preferably on completion of work.

This recommendation was accepted. It was accepted that the current payment system did not work well in the remote areas. In revamping the overall payment system additional consideration was needed to account for the different problems associated with these areas.

Recommendation 156: Recruitment and payment procedures be updated to allow for contracting of communities/organisations to undertake Census collection.

This recommendation was accepted.

Recommendation 157: Remote areas be allocated a separate pay file to ensure late payment does not effect the standard payment system.

This recommendation was accepted.

5. Field Procedures

(a) Interview Procedures

Recommendation 158: Interviewing documentation needs to reflect the appropriateness of procedures for obtaining information from office records.

This recommendation was accepted. Discussion focused on these collection principles being currently used and considered appropriate, however our documentation does not make reference to them. We will need to be aware of privacy considerations in further developing these procedures.

(b) Forms Design

Recommendation 159: We develop one form and one set of procedures for all people (literate/illiterate) living in identified remote areas. We need to investigate and test using standard personal forms with remote area interviewing procedures and appropriate supporting documentation for CFOs.

No consensus was reached on this issue. It was however recognised that Remote area forms required review. It was accepted that redesign and testing of Remote area procedures be incorporated into the 1996 development programme.

The proposed National Aboriginal and Torres Strait Islander Survey may assist in translating European concepts to Aboriginal concepts.

(c) OMR

Recommendation 160: Processing requirements of remote area forms be reviewed.

Accepted.

13.2 Census Awareness

Recommendation 161: We review our awareness strategies and needs for Aboriginal people and prepare materials in a more timely fashion for 1996. We need to remember CFOs commence field work 3 months prior to Census night and need our support.

1. Posters

Recommendation 162: We only produce a National Aboriginal poster in 1996.

2. Aboriginal Video

(a) Video

Recommendation 163: The video be retained with the continued inclusion of TSI footage in 1996.

(b) National Video Magazine

Recommendation 164: We need to review the usefulness of this medium and develop appropriate awareness material for the viewing audience.

Recommendation 165: The items listed below be provided in 1996 for CFOs and CMU PR activities.

1. Remote Area Flyer
2. Media
3. Assistant Collector Tee Shirts
4. CFO Shirts
5. Car Signs

These recommendations were accepted.

14. ETHNIC ENUMERATION

Recommendation 166: Continue/develop the Public Relations Unit's Communication Strategy as used in 1991.

This recommendation was accepted.

It was recognised that whilst we did not get a lot of feedback about the ethnic enumeration brochures they appeared to work well.

Recommendation 167: CMU/DMs to liaise with the grass roots facilities, such as the Migrant Resources Centre and the Community Health Centres (in Victoria), and any other local organisations that work with people that have a limited understanding of the English language. These facilities could be utilised to conduct information sessions, using interpreters to provide an explanation and assistance with the census.

This recommendation was accepted. Victoria recommended that an enumeration system similar to that used for Aboriginal enumeration should be built for ethnic enumeration. It was felt that the message was not getting through to the ethnic communities.

The NSW office told the conference about how they paid Migrant Resource Centres to supply staff at the centres around census night. These staff were involved in answering queries and performing interpreting services.

Victoria told the conference about a language map that they had been given by the Victorian Housing Commission. The map gave details of where particular ethnic groups lived on commission estates.

Recommendation 168: In census divisions with an estimated high population of non English speaking persons, a group leader/liaison officer be appointed to co-ordinate information sessions with local communities. Such a position could operate from the CMU and provide assistance to all DMs. Not unlike the role of the Aboriginal liaison officer.

This recommendation was accepted on the basis that this should be considered part of the normal functions of the CMU.

Recommendation 169: Structuring of census subdivisions to maximise concentration of known populations, e.g.; high/low rise housing estates. That is, do not have subdivision boundaries that separate housing estates.

This recommendation was accepted.

Recommendation 170: Use a professional interpreter service such as DILGEA to run the Telephone Interpreter Service.

This recommendation was accepted.

It was suggested that the name of the Telephone Interpreter Service be changed to Census Information Service. One option for the next census would be to consider using DILGEA's TIS and directing callers to their number(s).

Recommendation 171: Review the pay rates of interpreters to bring them in line with established rates used by DILGEA.

This recommendation was not agreed to the conference for two reasons:

- a. Victoria was the only state that had a problem with interpreter pay rates.
- b. Other interpreting resources were available with DILGEA providing fall back resources.

Recommendation 172: Questions on Country of birth and language spoken at home. Concern was expressed by some community leaders, such as from the Macedonian community, that the census did not fully include provision for those ethnic communities that come from countries that have absorbed those communities. This resulted in some negative reactions to the census. These negatives could have been overcome by promoting the form design and how it relates to data output, this followed by consultation with the communities, would help in the understanding and acceptance of the census form. Next census this will be much more of an issue.

This recommendation was accepted.

Recommendation 173: Consideration be given to an abridged form for short-term tourists especially those from an NESB. This would help overcome the troubles these people had in understanding and completing the form.

Discussion on this issue is covered in item 1.

15. SHIPPING AND MIGRATORY ENUMERATION

The Shipping and Migratory enumeration was considered to still be a 'grey area'. The conference discussed many of the problems encountered in 1991. It was evident from this discussion that migratory and shipping enumeration is State specific. It was agreed that each state would provide full details in their state reports and that CO would look for common issues and tidy up procedures and documentation accordingly.

15.1 Shipping

Recommendation 174: Shipping enumeration depends on local knowledge and contact with a variety of groups and organisations such as Harbour Masters, Ferry operators, Oil rig service companies, Government agencies, Port authorities, Shipping agents and Customs officials. The requirements vary from state to state and for this reason a standard national policy on shipping enumeration is impractical.

This recommendation was not accepted. It was acknowledged that many issues are state specific, however we should attempt to tie the common threads together.

Recommendation 175: Victoria have recommended that an additional DM be recruited there to look after shipping, migratory and large NPDs around the CBD. Tasmania on the other hand prefer to control shipping from the CMU. It is desirable that the states have this flexibility providing that funds are available to cover the resources required.

It was accepted that flexibility is required to allow CMUs to initiate the most appropriate procedures for their state. It was agreed to maintain the model of CMU responsibility with delegation to Divisional Managers as considered appropriate.

Recommendation 176: Some shipping CDs are more effectively handled by normal DMs and GLs rather than shipping collectors. This has been the case in four states and once again the local knowledge of these field staff has contributed to the success of the operation. This practice should continue.

This recommendation was accepted. Discussion focused on demarcation between Shipping CDs and Other CDs. This issue should be addressed at the CD design stage.

A question whether there was any real need for maps of Shipping CDs was raised. TAS and NT replied no. NSW replied yes.

It was noted that Collectors were inclined to overlook houseboats. The absence of the term houseboats from documentation exacerbated the problem.

Recommendation 177: Shipping movements are difficult to predict accurately because harbour masters and agents don't know details of arrivals and departures even a day or so before census day. This means that CMUs, Shipping DMs and local DMs must have the capacity to react quickly where forms need to be delivered or collected urgently.

This recommendation was accepted.

Recommendation 178: Because shipping enumeration is inherently "messy" and a relatively small part of the overall census operation there is a tendency for it to be left to last. The State Office Manual and Census timetable should encourage early planning and recruitment for those involved in shipping.

This recommendation was accepted.

It was noted that Census timetables did encourage early planning, however CMUs generally found that other Census activities tended to receive priority over the shipping activities.

Recommendation 179: Where collection of forms is a problem it is suggested that a mailback option be given to captains of vessels i.e. including all the forms in a certified mail envelope to the CMU.

This recommendation was accepted.

It was noted that some CMUs used this procedure extensively in 1991.

Recommendation 180: Anything to make a shipping collectors task simpler should be considered. Some states coded forms, completed summary sheets and record books in the CMU. Tasmanian office wrote some simple instructions for shipping collectors.

This recommendation was accepted.

Tasmania were asked to attach a copy of their shipping instructions to their State report.

Recommendation 181: The PR aspects of shipping and the census should not be overlooked.

This recommendation was accepted.

It was noted that the boat and migratory stories were seized upon by the media.

Recommendation 182: Most harbour masters and organisations related to shipping have been very cooperative. State offices should be encouraged to acknowledge this cooperation by phone or letter soon after their work is complete.

This recommendation was not accepted as a general policy. There were mixed perspectives on how helpful the harbour master had been. These ranged from "no help" to "very helpful".

Recommendation 183: The problem of large fishing/prawning fleets as pointed out in the NT report must be addressed in the next census. Fishing fleets that stay at sea for months over the census period need to be identified by CO Field Organisation and covered by appropriate procedures. The Department of Primary Industries was the suggested contact.

It was accepted that we need to identify these populations early in the Census timetable. It was thought that this was best done centrally with Primary Industries, however the actual enumeration should be organised at the local level.

Recommendation 184: Four states and NT reported that they successfully coped with shipping enumeration all be it with a few problems along the way, indicating that radical changes to the procedures are not required for 1996.

Tasmania required four Shipping Collectors and seven other Collection Districts with shipping were enumerated by Census Collectors.

It was accepted that "radical" change was not warranted, however as discussed earlier in this session that we should look at tidying up our procedures.

15.2 Migratory

There were no recommendations on migratory presented to the conference. Discussion focussed on states experience and is summarised below.

(a) Buses

Victoria was the only state who did not offer persons enumerated on buses a mailback option. It was suggested that the results of the mailback and non-mailback enumeration be compared.

Queensland said that the Hotline was a good contact to arrange forms for any bus companies that may have been overlooked particularly the smaller ones.

(b) Safaris

Queensland pointed out the existence of safaris. Some Collectors did not know when one of these safaris stayed overnight in the bush in their CD.

The Northern Territory agreed that the enumeration of safaris or of anyone camping away from regular camping grounds was a real issue.

(c) Roadside campers

Western Australia stated that campers beside the road were a significant population in WA. They did not have any idea of how many they had missed.

Northern Territory also stated that campers-out were a real issue.

It was suggested that leaving forms in Post Offices was a valid option in certain areas for this population. It was noted that this option was originally planned for 1991 but not implemented.

Several working options were discussed:

- ask Divisional Managers or GLs to distribute forms to Post Offices as it was thought that staff in remote Post Offices would be more amenable if approached personally.
- leave Divisional Managers name and number which can be passed to any inquirers,
- open a national display account with Australia Post and be done with all the fiddling around.

Northern Territory outlined the assistance received by the police in remote areas, including using the police station as a Census information centre.

(d) Railways

CMUs generally recruited Special Collectors on the railways.

(e) Antarctic

It was reported that there was no migratory in TAS except Antarctica and that people will winter over for the first time on Heard Island next year. Special procedures will be followed for the enumeration of the Antarctic bases.

16. REFUSALS

16.1 General Comments.

Comparison of refusal for 1991 with 1986 shows increases in most states, although overall the percentage of the population receiving a Notice of Direction (NOD) is still extremely small.

It was pointed out that we seem to place a lot of emphasis on refusals but little on mail backs which could be disguised refusals. The mailback rate is significantly higher than the refusal rate.

It was acknowledged that all CMUs experienced heavy workloads in connection with refusals and NOD's. This additional workload was not taken into account when resources were determined for 1991.

It was recognised that it was in ABS's interest for successful prosecutions to be publicised.

16.2 Refusal follow up objectives?

Recommendation 185: When the outcome of the 1991 Census refusal action is finalised it is recommended that a review be conducted to evaluate the effectiveness of the changes in policy used in the 1991 Census.

This recommendation was accepted.

Recommendation 186: Implementation of procedures to follow up households advising they posted their form to the DPC appears warranted.

This recommendation was accepted.

16.3 Requests for written direction

Recommendation 187: The requests for written direction procedures be retained although they were not widely used for 1991 Census.

This recommendation was accepted.

Recommendation 188: The despatch of a DCS letter prior to issue of NOD be retained.

It was noted that this was a standard procedure in 1991 and should be retained.

Recommendation 189: Training procedures be improved so that field staff and CMU staff have a better understanding of when to apply the procedures for requests for written direction.

This recommendation was accepted.

It was acknowledged that procedures need to be tightened. In some cases requests for written direction were sent when normal procedures should have been used.

It was suggested that this could have occurred because we were too busy to spend time sorting cases.

16.4 Procedures for other refusals

Recommendation 190: The Refusal Report be redesigned. Suggested changes are as follows.

Replace	Refusals converted Yes/No
with	Completed form included in workload Yes/No
	Letter and mail back envelope posted or left with
	householder Yes/No

This recommendation was accepted.

It was noted that the Refusal Report needs to make it clear when field staff completed the form.

Recommendation 191: Major points to be covered with refusals be printed on back of the form as on average each GL is only involved with a small number of refusals.

This recommendation was accepted.

Recommendation 192: Where a refusal involves a partially completed form the form should be attached to the Refusal Report and a dummy form included in the workload as the original form is required when deciding whether to proceed with a prosecution..

It was acknowledged that we experienced some trouble ascertaining from the DPC whether the form was partially completed by the collector or the householder. It was suggested that all unsatisfactory completed forms should come back with Refusal Report Form.

Recommendation 193: The use of the CF112 be discontinued and refusals be progressively faxed (or posted) to CMUs as soon as they are received by DMs.

This recommendation was accepted.

Recommendation 194: CMUs progressively enter refusals into a data base and a coding system be developed to classify outcomes.

This recommendation was accepted.

It was noted that some states used this type of system in 1991. It was suggested that the linkage of this data base to the proposed mailback data base maintained by the DPC be investigated. Alternatively, the data could be entered by DMs.

Recommendation 195: Where feasible greater use by GLs be made of the telephone to follow up refusals in country areas.

This recommendation was accepted.

16.5 False Information Follow Up

Recommendation 196: The wording of Attachment 3 be changed to "I understand that we have not received a satisfactorily completed 1991 Census form". This would cover all situations including return of blank forms and forms containing no useful information.

There was some discussion whether it was appropriate to send the letter re inaccurate completed forms as the next step is to issue an NOD. It was noted that this had been considered in detail and was the correct procedure.

16.6 Timetables and Resource Implications

Recommendation 197: Refusal workloads and timing be considered when determining CMU staffing levels.

This recommendation was accepted.

Recommendation 198: Timetables be brought forward so that all the NOD can be issued by the end of September.

Timing of NOD despatches varied between States. It was accepted that to be effective we need to get them out as quick as possible.

16.7 Roles of CMU and DPC

Recommendation 199: Mailbacks continue to be sent to the DPC.

It was noted that the mailback labels were confusing and there would be better control if all mailback forms were posted direct to the one office - either the CMU or the DPC.

There was general agreement to keep with the existing system of mailbacks to the DPC. However, it was agreed that there is a need to implement a better system to monitor the flow of information about mailbacks received in the DPC back to the CMU.

The recommendation was accepted on the proviso that the DPC develop an effective data base of all mailbacks and that CMUs have direct access through the LAN.

Recommendation 200: CMUs progressively enter Refusals onto a data base and forward a list to the DPC for checking at the end of August. CMUs then despatch DCS letters.

This recommendation is covered by 16.4.

It was noted that more timely response is required from the DPC.

Recommendation 201: CMUs and DPC be adequately staffed for Refusal tasks.

This recommendation was accepted. The split of functions between the CMU and DPC has yet to be resolved.

16.8 Source of Names

Recommendation 202: Alternative sources of names for refusal households be investigated.

This recommendation was accepted.

It was noted that considerable effort was put into obtaining names, only to lead to much frustration when insufficient details could not be found to allow prosecution.

16.9 Issue of NOD

Recommendation 203: There is a need for improved liaison between CMUs and the DPC if CMUs retain complete responsibility for refusals.

This recommendation was accepted.

17. PUBLIC RELATIONS AND MARKETING

Overall, it was felt the Communications Strategy for the 1991 Census was very successful.

17.1 Dress Rehearsal

Recommendation 204: That local media in the dress rehearsal area be briefed on the procedures and rationale but because of the potential confusion, no widespread media program be implemented.

This recommendation was accepted.

The Dress Rehearsal was considered successful from a PR point of view. Some negative impact resulted from a Letter to the Editor with a Big Brother theme that appeared in a local paper, which affected the section of the test area covered by the paper.

17.2 Recruitment

Recommendation 205: That consideration be given to splitting Group Leader and Collector recruitment, with the Collector campaign running much later, say around May.

Splitting Group Leader (GL) and Collector recruitment campaigns had been decided by conference under item 10. The Collector campaigns would run later (in about May). The extra campaign would raise the public's awareness, and the savings made by placing smaller ads in the press could fund the extra advertising for this. It was suggested that a small ad could be placed in the general news section of the papers, stating where to find the recruitment ads.

Recommendation 206: That greater use be made of suburban and other 'throw away' papers and talkback/interviews on local radio.

This recommendation was accepted.

It was accepted that CMUs should be involved in the selection of relevant papers and radio stations. In rural areas it was felt that local papers would be more effective than state or national papers.

It was felt problem areas for the next census could be targeted from 1991 problem areas. It was debated whether a plan for problem areas should be developed from the start of the campaign, whether a contingency plan should be available, or whether a combination of both would be appropriate.

Radio ads were not considered cost effective because there are too many stations for the ad to reach a large audience. Placing ads in Neighbourhood Watch and other local papers was a good idea.

The Census Public Relations area felt their staff should have commenced earlier.

17.3 Internal Communication

General ABS Staff

Recommendation 207: That ABS News and the Bulletin Board be used to disseminate information to staff.

This recommendation was accepted.

Pop Census Staff

Recommendation 208: That the Communications Strategy be documented and circulated to relevant staff.

This recommendation was accepted.

Temporary Staff

Recommendation 209: That training videos prepared for the Census contain a PR overview segment similar to 1991.

This recommendation was accepted.

Recommendation 210: That Collectors be briefed on negative media campaign scenarios during training.

This recommendation was accepted.

Recommendation 211: That consideration be given to producing a Newsletter for circulation to field staff.

This recommendation was not accepted.

The general consensus was this would generate too much work in terms of resources and effort. Perhaps micros could be used to distribute information to Divisional Managers for the next census.

Recommendation 212: That an acknowledgement be made of the role of the collector in relevant PR materials and media releases. This process of supporting the Collector needs to begin at the time of the recruitment campaign.

This recommendation was accepted.

It was thought field staff should be given more support and the role of the collector should be highlighted more, e.g. in the information booklet.

Spokespersons

Recommendation 213: That spokespersons be identified and trained well in advance of the launch of the recruitment campaign, and that follow up training occur closer to Census and that training be co-ordinated with the Public Relations Unit (to maximise Bureau wide benefits after the Census).

This recommendation was accepted.

It was noted that the media training programme initiated in 1991 was extremely successful and should be retained.

17.4 General Population

Television Advertisement

Recommendation 214: That consideration be given to using the PINS TVC again in 1996.

This recommendation was accepted.

It was acknowledged that while the advertisement worked well on television, it was not effective in newspapers.

There was total agreement that the advertised campaign was also run too late. The paid media campaign should take into account the timing of field work and the rate at which forms are delivered, which was overestimated considerably by Public Relations for this census. It was considered that advertising should precede delivery and then for other public relations activities to cement positive attitudes rather than the reverse approach used for the 1991 Census.

Recommendation 215: That if a new ad is developed, appropriate communications research be undertaken.

This recommendation was accepted.

Recommendation 216: That the advice of OGIA be sought on the balance between production costs and media buy.

This recommendation was accepted.

Press advertisements

Recommendation 217: The timing of the paid media campaign is an issue which needs to be examined. The timing should take into account the parameters of the field system and the rate at which forms are delivered.

Given the limited paid media budget either the Television or the Press campaign will need to be brought forward - funds will not allow either campaign to be spread over a longer period i.e. the budget only buys about 4 days of Television advertisements, these can either be prior to Census night or prior to delivery, not both.

This recommendation was accepted.

Information booklet

Recommendation 218: That the content of the Information booklet be reviewed.

This recommendation was accepted.

Media Releases/Media Liaison

Recommendation 219: That there be a program of outposting journalists to assist CMUs with media liaison.

This recommendation was accepted.

Recommendation 220: That a Census Promotions Unit be established in Sydney as occurred in 1991.

This recommendation was accepted.

Recommendation 221: That greater effort be directed towards developing releases targeted at the local level.

This recommendation was accepted.

Victoria and NSW CMUs went around the small country areas and made many contacts with journalists, which was considered very helpful. It was suggested that DCSs are involved in this in 1996.

Television Soaps

Recommendation 222: That contact be made with the producers of relevant 'soaps'.

This recommendation was accepted.

The census was dealt with well in 'A Country Practice', but appeared in the 'Flying Doctors' about a month after census night. It was recommended that the producers of 'Steve Vizard' and 'Fast Forward' or other talkback shows be approached as well.

Neighbourhood Watch

Recommendation 223: That this vehicle be used again in 1996.

This recommendation was accepted. The newsletters may also be able to be used in recruitment.

Diaries/Calenders

Recommendation 224: That manufacturers be approached in late 1994.

This recommendation was accepted.

It was noted that we started on this one year too late in 1991.

17.5 Audiences Requiring Special Attention

Non English Speaking Background (NESB).

Recommendation 225: That specialists in NESB communications be involved in the campaign.

This recommendation was accepted.

Recommendation 226: That a similar ethnic communications strategy be adopted in 1996.

See item 14 for comments.

It is not certain if all these people were targeted and PES results will identify those groups the ABS needs to target next time. Ethnic Communications provided invaluable assistance and it was recommended that a specialist in NESB communications be employed again.

The ethnic press briefing went well, and a similar approach should be used for the next census.

Aboriginal and Torres Strait Islander People

Recommendation 227: That a similar communication plan be adopted to that outlined in the 1991 Aboriginal Enumeration Strategy.

See session 13 for comments.

PR is waiting on evaluation results to see how well this group was targeted. The materials developed for Aboriginal communities was thought to be well-received. More help should be provided to Census Field Officers next census by ensuring the material suits their needs. More localised material was needed.

Northern Territory

Recommendation 228: That greater effort be put into liaison at a local level, particularly in relation to media planning.

This recommendation was accepted.

New Zealanders

Recommendation 229: Review effectiveness in light of PES.

The effectiveness of the strategies for these people will be reviewed when PES results become available.

Japanese

Recommendation 230: Incorporate Japanese as one of the languages in the Information Booklet (front cover).

If foreign tourists are no longer to be in scope of the census this will be unnecessary, see item 1.

Recommendation 231: Review other strategies in light of the PES.

This recommendation was accepted.

Non Private Dwellings

Recommendation 232: Continue to review possible approaches to support field operation.

This recommendation was accepted.

A difficult area for PR to help with problems like uncooperative managers. One possible approach would be to emphasise the usefulness of census output to owners/managers of NPDs.

Visitors to Australia

Recommendation 233: Implement similar strategies in 1996.

See item 1 re foreign tourists.

Persons 20-29

Recommendation 234: Review in light of PES.

This recommendation was accepted.

Outside metro areas

Recommendation 235: Review in light of PES.

This recommendation was accepted.

17.6 Vested Interest

Religious Organisations

Recommendation 236: That greater attention be put into briefing opinion leaders and that the issue of religious categories be highlighted in any thematic publications.

This recommendation was accepted.

It was agreed that more attention be given to briefing opinion leaders and the issue of religious categories be highlighted in any thematic publications. The rationale for including specific religions in the response categories needs to be emphasised.

State Governments

Recommendation 237: The effect of the State Government campaigns be monitored.

This recommendation was accepted.

If PES results do not indicate a significant improvement above other states then the money spent could be considered inappropriate. The issue of corporate support was raised. There was concern that sponsorship must not jeopardise the impartial nature of the census, however this idea should be explored.

Members of Parliament

Recommendation 238: That information kits be distributed to the electorate address of politicians just prior to the launch of the awareness campaign.

This recommendation was accepted.

Service Organisations

Recommendation 239: That the production of a standard set of overheads and speakers notes be investigated.

This recommendation was accepted.

Schools

Recommendation 240: That the desirability of a national launch of the schools kit be considered in order to maximise publicity.

Recommendation 241: That the effectiveness of the 1991 kit be evaluated and that the desirability of producing primary schools materials be considered as part of this evaluation.

Evaluation of the schools kit is being carried out by NSW office. There was basically a positive reaction, but many schools felt the kit was received too late. For example, there was only one week where NT schools could have used it because of their holidays. They were used in some adult education classes.

The idea of a national launch was put forward, but the WA delegate disagreed, claiming a state launch with local stories was very popular there. It was suggested that a popular media figure be used, which would generate lots of publicity.

When the kit is evaluated, it should be determined if material for primary schools be developed for the next census, as there were some requests for material suitable for this level.

Civil Liberties Groups

Some civil liberties groups criticised the ABS. Other offices had a good relationship with the chief civil liberties spokesperson for their State because they briefed him before the census and received favourable publicity as a result of this pro-active approach. It was felt some follow-up action should be undertaken to clear up misunderstandings and avoid continuing negative publicity in all States.

Organisations for the disabled

Recommendation 242: Review strategies in light of feedback.

This recommendation was accepted.

Only five calls were received by the TTY hotline from deaf people. The Federation of Blind Citizens is preparing a report on the effectiveness of awareness measures for visually impaired people.

Aged

It was suggested that community radio be used to reach this group.

17.7 Other

The 'standard' publications such as 'Census Content and Procedures' and 'How Australia Takes a Census' were used to effectively promote census awareness and brief relevant groups on content and field procedures. The General Inquiry Guide should also be used for this.

One issue that was repeatedly raised was that of timing- many strategies should have been implemented much earlier.

NSW office had a full-time journalist for the campaign, which was regarded as beneficial. He favours using radio, especially in country areas, and having a schools liaison officer.

ABS will try to get publicity when pulping of census forms begins.

18. INQUIRY SERVICES

The main theme of this session was the sheer increase in volume over 1986. This was attributed to a number of factors, primarily the PR campaign being perceived to be more widespread.

18.1 Hotline Services

Recommendation 243: One national number be used for the Hotline Service.

This recommendation was accepted with the qualifier that options should be considered closer to the time given the changes likely to occur in telecommunications.

Recommendation 244: Hotline operating times and dates to be the same depending upon delivery and collection procedures adopted for next Census.

This recommendation was not accepted.

It was considered that the hotline period needed to be extended, starting a few days before Census delivery commencement.

Recommendation 245: Headsets be considered for Hotline operators.

This recommendation was accepted with the qualifiers that options should be considered closer to the time given changes likely to occur in telecommunications, that costs had previously precluded this option and that equipment may be available from other ABS collections.

Recommendation 246: Hotline training be increased to seven hours.

This recommendation was accepted.

The HSE was thought to have worked well.

The manuals were regarded as satisfactory requiring fine tuning only.

Again, there was a perception of some tension between hotline operators and Census collectors. Operators need to know more about what is going on in the field and vice versa. Training was seen as the main area where this problem could be addressed. However, it was noted that this aspect needs more work on both sides.

Recommendation 247: Pay rates for operators to be reviewed - pay at ASO2 rate.

This recommendation was not accepted.

Discussion of this issue can be found in session nine.

Recommendation 248: NSW and SA to again take ACT and NT calls respectively.

This recommendation was accepted in part.

It was noted that NSW and SA provided an excellent service to both the ACT and NT, however both the ACT and NT received approximately 50 per cent of all hotline calls direct. We need to take this into account and provide adequate staffing in both the ACT and NT to cope with this workload and/or arrange for transfer of calls to readily occur.

It was agreed that for census year, we should examine the inclusion of the hotline numbers in the telephone book.

Recommendation 249: Action Advices not to be printed on NCR paper.

The value of an A5 versus A4 size action advice form was queried. Whilst this reduces transmission time, there may be some loss of detail. This aspect needs to be examined in light of possible use of E-Mail to DMs.

18.2 Census Interpreter Service

Recommendation 250: The Interpreter Service should be advertised as the Census Information Service.

Refer to item 14.

It was also noted we need to advertise operation dates and hours of operation.

Recommendation 251: Interpreter Service operating dates and times to be reviewed.

This recommendation was accepted.

Recommendation 252: DILGEA to be used again for the organising of Interpreters.

Refer to item 14.

It was suggested we should make more use of DILGEA 'on-call' service and include Korean and Japanese languages.

18.3 Other Inquiry Services

Recommendation 253: Make appropriate arrangements for the hearing and speech impaired noting minimal use of the TTY service was made in 1991.

Accepted.

Recommendation 254: Customs to be approached for permission to distribute flyers at the airports.

This recommendation was accepted.

19. DIVISION DESIGN

The report presented included a number of recommendations which were noted as requiring review in consideration of a computer based mapping system.

Recommendation 255: Change the GDB processing software to be user friendly. That is, the ability to do on-line amendments without the need to re-create new transaction data sets.

Recommendation 256: Ensure that the boundary lessons of 1991 are considered in any boundary changes for 1996. For example, in SA the Far West End near WA border for Division 01 may need transferring to Division 02.

Recommendation 257: Timetable for the GDB Update and the CD Design should have built-in flexibility to allow for the extensive field work in 'growth' areas.

Recommendation 258: Selected use of DMs for CD Design work in 'growth' areas. This is part of the suggestion for the early employment of some DMs. This is seen as providing valuable assistance based on local knowledge in the CD Design and GDB Update.

Recommendation 259: Where possible, Group Leader workloads to equal subdivisions. This needs to be considerate of cost.

Recommendation 260: Creation of NPD and Shipping Divisions in the central city regions. These to be run from CMUs, and dependant of the local situation.

Recommendation 261: Redesign the structure of the CD numbering system.

Victoria introduced the paper by pointing out that it was the first time Pop Census had actually designed the Divisions for its own purposes and it was appropriate to review how successful the operation had been.

Points raised in discussion were:

- States are to report on division design in State Office Reports.
- NSW super-divisions worked pretty well. NSW recommended retaining them in principle but careful selection of appropriate areas is necessary. The main thing is to pick areas that are homogeneous.
- No problems had been experienced through using LGAs as building blocks.
- CO is examining options for an alternative CD numbering system. Output processing requirements need to be considered as well as those of Field Org. It was agreed that a unique State identifier was an important component of any numbering system adopted.

- It was proposed that Subdivision design be an outcome from CD design rather than being done prior to it. This was accepted.

20. MAPPING

Recommendation 262: The base maps need improvement especially in rural areas. Many Group Leaders purchased maps from local councils or used street directories to show new features that were not on CD maps.

This recommendation was accepted.

Recommendation 263: When extra maps have been purchased they should be returned to the ABS so that any comments, boundaries drawn on them, etc. can be used as part of the CD mapping review project.

This recommendation was accepted.

Recommendation 264: More note needs to be taken of collector and especially group leader comments when doing the CD mapping review project for 1996. A number of group leaders who have worked on a number of censuses said that comments they have made in the past about features no longer existing have not been incorporated in the new maps. They get the same map base as 10 years ago with the same inaccurate representations.

New arrangements for 1991 mapping should ensure that up to date maps are provided.

Recommendation 265: There is a need to improve the scales for densely settled urban maps as they are very difficult to block up due to the small geographical size of the CDs. More inset maps are needed for these CDs, this will give the collector a better understanding of the area and give them more space on the map to do their blocking.

This recommendation was accepted.

There was general concern of areas potentially being missed or overlapping of boundaries when non Census maps are used in the field. It was accepted that we need to provide adequate mapping for collection purposes.

Recommendation 266: There is also a need to improve the scales of rural maps. These maps don't show enough detail and this makes it very difficult for the collector to plan their route. They need to be a larger scale so that blocking up exercise can be done properly and so that collectors have a better understanding of their workload.

This recommendation was accepted

Recommendation 267: Divisional Managers need a better divisional summary wall map. Instead of a group of CD maps stuck together it should be a properly designed wall map clearly showing divisional and sub-division boundaries and the major geographical features. In other words this map should be designed separately, it should not be a composite of individual CD maps.

This recommendation was accepted

Recommendation 268: A more practical emphasis for the CD blocking exercises in the HSE and training is needed. It is recommended that collectors be given a copy of their CD map for the HSE as well as the copy in their record book. In training they would go over their HSE exercise. Doing this exercise twice, once in the HSE and again at training would ensure that collectors block up their maps correctly and in the most efficient manner.

This recommendation was accepted

Recommendation 269: DMs and GLs should get the opportunity to review maps prior to distribution to Collectors. Particularly, if the recommendation is accepted to bring the DM and/or GL on earlier in the timetable.

This recommendation was accepted in principle, however it was recognised that maps may not be available early enough in a few areas to accommodate this recommendation.

21. DESPATCH AND RETURN (DART)

Recommendation 270: In the despatch of material to CMUs by DMs, instructions should be explicit to ensure that all material is received by CMU ready for forwarding or referral if required.

This recommendation was accepted.

Recommendation 271: Depending on the pay system adopted for 1996, all financial material should be held by the Divisional Manager for fourteen days after cheques are dispatched from the CMU to enable the DM to resolve pay queries.

This recommendation was not accepted. Unless more timely payment can be arranged, it was considered better to forward the material to the CMU while the cheques are being prepared.

Recommendation 272: The procedures in the Division Manual should be written to reflect the accepted methods of delivering and collection to and from DMs and Group Leaders. The logistics of distance must be considered in the monetary cost of assessed Travel Time and mileage but at the same time the timeliness of the delivery should not be discounted.

This recommendation was accepted.

Recommendation 273: Without being too inflexible, formal procedures should be introduced to standardise the delivery of material between GLs and Collectors. This will decrease the considerable claims for mileage being received after travel has been undertaken.

This recommendation was accepted.

22. FIELD EQUIPMENT

Recommendation 274: The installation of telephones be devolved to CMU as a State/Territory responsibility.

This recommendation was not accepted.

It was agreed that central office initiate standard arrangements and for the implementation/day to day arrangements be a CMU responsibility.

A discussion took place about the use of mobile phones. Those states that used them recommended their use next census.

Recommendation 275: If the system used in 1996 is based on fax machines and action advices from a hotline, a second telephone line should be installed for each DM, or an allowance be paid for disruption caused in using the DMs private telephone.

A wide ranging discussion took place relating to this recommendation. It was accepted that DMs experienced considerable demand on their private lines and this should be minimised.

Recommendation 276: Answering machines be provided to all DMs.

This recommendation was accepted. Refer to item 1

Recommendation 277: Satchels should be designed or altered to have a divider and a solid base. This recommendation was not accepted. The conference felt that satchel design was a matter of individual preference and they would be "bagged" no matter what the design was.

Recommendation 278: The use of a micro/modem computer system linking DMs to CMU should be investigated as a priority.

This recommendation was accepted. Refer to item 1.

GENERAL COMMENTS

Fax Machines

There was some discussion about problems with installation instructions. South Australia told the conference that they arranged for a Ricoh representative to demonstrate installation at DM training.

Dog Alarms

The use of dog alarms was discussed. It was decided to look at the experience of PSO before making a decision. Costs were also a major consideration.

Pens

A discussion about the use of Government issue pens took place, the discussion revolved around their inappropriateness. It was agreed that in future a miscellaneous payment be made to cover such items as pens, torches etc.

Record Book

It was agreed that the collectors Record Book should be made of better quality materials in future. Waterproof paper was suggested.

23. ENUMERATION OF THE HOMELESS

Recommendation 279: The homeless to be a target group in the communication strategy.

This recommendation was accepted.

A discussion took place about the definition of a homeless person. The consensus was that it was best not to have a definition but to provide assistance to any person who needed it.

Recommendation 280: Be proactive in identifying the organisations that provide care for the homeless. This would involve the public relations unit, the CMUs and the divisional managers becoming more active.

This will remain a CMU responsibility.

Recommendation 281: Provide guidelines for parties involved in locating the homeless.

Contact with relevant organisations would provide the necessary information.

Recommendation 282: Seek support of the organisations in communicating the message of the Census to the homeless.

This recommendation was accepted.

Recommendation 283: Develop the 'short' form to assist those with sight and/or literacy problems.

This recommendation was not accepted.

A discussion took place about the use of short forms and the processing and data implications. Given the small numbers of homeless people a short forms was not justified.

Recommendation 284: Develop a specific strategy for the training of special collectors and assistant collectors involved in this field.

This recommendation was not accepted. Training was considered best left to local arrangements adopting the standard training package as appropriate.

Recommendation 285: Develop a pay package that allows prompt payment to those assistant collectors that have worked on the census, especially those that are also homeless.

This recommendation was accepted.

24. SUMMATION

24.1 The Big Picture

Glenn Cocking thanked everybody for conducting a great census and for their contributions for the conference.

The conference report plus an overall census planning paper will be drafted and circulated internally. This will provide the main inputs to an overall development program for next census which we will be preparing in the new year.

Some big development areas, already identified (some of which are already underway) are;

- Mapping review,
- OCR/automatic coding,
- Development of a microcomputer system for DMs to more effectively manage their pays and other admin tasks,
- Careful review of the pay system and of other admin tasks to simplify them (possibly merge with micro computer development).

For the microcomputer system development we should be looking at participation from CO, states and DMs.

Each state should also contact CO to notify which developmental tasks for the next census they wish to participate in.

24.2 Other Lessons

The conference also revealed a lot of far less reaching but never the less important issues to study, including clear directions in some cases.

To mention but a few:

- The need to calculate the number of refusals converted via the mailback option and how successful this system worked.
- The need to compare mailbacks to refusals and non-contacts in relation to underenumeration and how to manage them in the next census.
- Separation of Group Leader and Collector recruitment;
- Find simpler ways to meet obligatory rules concerning pays.

- Reduce or eliminate information received from international tourists;
- Be more outgoing, less defensive about the need to collect names.
- Allow two weekends for delivery, put greater emphasis on making contact on delivery.
- Keep Census day early in the week and shorten the routine collection period.
- Move field preparation earlier but be aware of the problem of dress rehearsal timing and its need to test both processing and collection.
- Put Collector's name and phone number on form and Information Booklet;
- Find ways for households in distant rural areas to return their Census form other than leaving it out for collection.
- Give Group Leaders greater responsibility for NPDs.
- Reassess of time needed for field staff to do their work.
- Make NPDs lists better.
- Refinement of selection criteria for Census Field Officers.
- Review the forms design for remote areas.
- Design a better system for telling states if a refusal form has reached the DPC.
- Better system for recording progress on refusals needed - both from a field perspective and aggregate data.
- Lots of ideas for refinements to PR, TES, workload design and DART.

24.3 Thanks

To conference participants and census participants - hope to see all next time.

To Lyn Walsh and NSW office for a well organised conference.

To Roy Middleton for his attendance and contributions from a New Zealand perspective.

To Central Office staff who set up the conference structure.

John Paice is leaving Census in February to take up a major study award in professional communications. Many thanks to John for a job well done for this and the previous census. John deserves a particular piece of the credit for the success of Census 91.

Other evaluation reports include :

1. Topic Reports.

Topic Reports were prepared to provide a national perspective on each component of the collection phase system. They provide an overview of the topic and most made recommendations for discussion at the conference. The following topic reports were prepared:

NSW	Group Leader and Collector procedures (not included elsewhere) Financial Management Inquiry Services (includes an assessment of Hotline and General Inquiry Guides and the Telephone Interpreter Service, TTY and other Inquiry Services established by State Offices) Mapping
Vic.	Recruitment Ethnic Enumeration Division, Subdivision, CD design/GDB Update Homeless Enumeration
Qld	DART Field Equipment (including Fax) Australia Post
WA	Non-Private Dwelling Enumeration (includes Non-Private Dwelling Summary Form) Telecom External Territories
SA	Payment Systems Timetable (including pay) Refusals
Tas.	Remuneration rates Shipping and Migratory Enumeration
NT	Aboriginal Enumeration (includes Remote Area Interview Form)
ACT	Snowfields Enumeration
DPC	Issues affecting the collection phase identified by the DPC
CO	Household and Personal Forms and Information Booklet (DE&C) Legal Issues (Legislation) Public Relations (Census Promotion) Training (Field and PD) Field Form production (FO) Strategic options for next census (FO) Staff Resources (FO) Record Book preparation (FO) Collector Survey (FO) Post Enumeration Survey (PSO)

SESSION LEADERS

1. Strategic options for next census	John Paice (CO)
2. Staff resources	Ian Reed (CO)
3. Timetable	Martin Yard (SA)
4. Divisional Manager, Group Leader and Collector procedures (not elsewhere included)	Lynne Walsh (NSW)
5. Household and Personal Forms and information booklet	Dave Smith (CO)
6. Legal issues	Michael DeMamiel (CO)
7. Payment systems	Ian Williamson (SA)
8. Remuneration rates and allowances	Rod Caswell (Tas.)
9. Financial management	Tony Dwyer (NSW)
10. Recruitment	Garth Donaldson (Vic.)
11. Training	Jeff Franklin (CO)
12. Non private dwelling enumeration	Graeme McLennan (WA)
13. Aboriginal enumeration	Gary Sutton (NT)
14. Ethnic enumeration	Winton McColl (Vic.)
15. Shipping and migratory enumeration	Rod Caswell (Tas.)
16. Refusals	Martin Yard (SA)
17. Public relations	Steve Jiggins (CO)
18. Inquiry services	Steve Butcher (NSW)
19. Division, Subdivision, CD design/GDB update	Winton McColl (Vic.)
20. Mapping	Steve Butcher (NSW)
21. DART	Bruce Goodwin(QLD)
22. Field Equipment	Bruce Goodwin (QLD)
23. Homeless People	Garth Donaldson (Vic.)
24. Summation	Glenn Cocking (CO)

ATTENDEES

Central Office

Glenn Cocking (Chairperson)	
John Paice	Development and Field Organisation
Dave Smith	Development and Evaluation
Ian Reed	Field Organisation
Sue Droop	Field Organisation
Terry Ross	Field Organisation
Anthony Davis	Field Organisation
Andrew Lamb (ACT)	Field Organisation

New South Wales

Greg Bray
 Tony Dwyer
 Stephen Butcher
 Lynne Walsh

Victoria

Garth Donaldson
 Winton McColl

Queensland

Geoff Oakley
 Bruce Goodwin

South Australia

Martin Yard
 Ian Williamson

Western Australia

Peter Kelly
 Graeme McLennan

Tasmania

Rod Caswell
 Chris Turner

Northern Territory

Gary Sutton

In addition, the following people attended relevant sessions:

Dennis Trewin	
Anu Mitra	Development and Evaluation
Cathy Barber	Co-ordination
Paul Cheeseman	Field Organisation
Sharon Hill	Field Organisation
Graham Franklin-Browne	Field Organisation
Jeff Franklin	Personnel Development
Steve Jiggins	Public Relations Unit

Deanne Russell	Public Relations Unit
Barry Smart	Public Relations Unit (NSW)
Michael De Mamiel	Legislation
Mira Mihajlovic	Legislation
Greg Fry	Data Processing Centre
Dorothy Hayes	New South Wales
Rosemary Perry	New South Wales
Robyn Hardy	New South Wales
Geoffrey O'Donnell	New South Wales
Vince Lazzaro	Victoria

RECOMMENDATIONS FROM THE 1991 POPULATION CENSUS DATA PROCESSING CENTRE CONFERENCE

This Appendix provides a summary of the conclusions reached on individual reports by the managers at the 1991 Population Census Data Processing Centre (DPC).

As the summary was written primarily for the Census planners, readers may require assistance in understanding the issues and the conclusions reached thereof. Those wishing to have this assistance should contact Assistant Statistician, Population Census Branch, Bureau of Statistics, PO Box 10, Belconnen, ACT 2616.

It should also be noted that, as the planning for the Census has advanced, many of the recommendations have been subject to modification in the light of technical changes, testing and research projects.

1991 DATA PROCESSING CENTRE - FINAL REPORT RECOMMENDATIONS

This report is organised as follows:

DPC Overview

- Initial Processing Overview
 - Store and Flow Control
 - Precapture
 - Data Capture
 - Preliminary Processing
 - Post Enumeration Survey
- Main Processing Overview
 - Computer Assisted Coding
 - Edit/amend
 - Query Resolution
 - Quality Management
 - Special Projects
 - Management Information Systems
 - Systems
- Administration Overview
 - Personnel Operations
 - Recruitment
 - Finance
 - Office Operations
 - Industrial Relations
 - Security
 - Staff Support
 - Compensation and Rehabilitation
 - Training

DPC OVERVIEW

1. A forward work program for the 1996 DPC to be developed as soon as possible. This should address all processing, systems and administrative issues.
2. Redevelop the Census Processing System taking into account the changes recommended in the Final Report of the 1991 DPC and changes to methodology proposed for 1996. All redevelopment work to be completed by December 1994. All related documentation to be updated to reflect changes.

3. Fully test (including load testing of all equipment) the Census Processing System at the Census Dress Rehearsal. Other than to rectify identified problems no changes are to be made after this test unless there are justifiable cost savings or improvements to data quality.
4. Management Information Systems (including an integrated Flow/Stores Control) should be available on the LAN to all managers.
5. Validation of Unit Record Files to be performed at the 1996 DPC. This work should be carried out progressively as soon as data is available.
6. The emphasis on Quality Management to be continued at the 1996 DPC. The QM System should be redeveloped and a Quality Assurance manager appointed to be responsible for all quality issues.
7. A training coordinator be appointed specifically for the processing area.
8. An Applications Section be located at the 1996 DPC.
9. Computing equipment purchased for the 1996 DPC should be able to be reused elsewhere in the ABS.
10. Negotiations on industrial issues should commence as soon as possible. In consultation with the union an employment conditions package (including a performance assessment process and staff selection procedures) should be developed.
11. As part of the consultation with the union the ABS should resolve the current disagreement about 50% keying/use of screen based equipment.
12. All administrative procedures and practices to be fully tested at the Census Dress Rehearsal.
13. A suitable staff structure for the 1996 DPC be developed. This should take full account of Work Design and OHAS issues. The staffing of positions should allow adequate time for settling in and training.
14. A comprehensive training program be developed for all staff at the 1996 DPC. This should be consistent with ABS training strategies. Specific attention to be given to management training aspects, including counselling and staff assessment.
15. The location of the 1996 DPC should take into account the availability of suitable staff, the proximity to suppliers and maintenance facilities, the level of rent subsidies for staff and the cost involved in staff travelling from ABS offices (in particular Canberra).

SUMMARY OF RECOMMENDATIONS MADE BY ASSISTANT DIRECTORS AND GROUP LEADERS

INITIAL PROCESSING OVERVIEW

1. Group Leaders and Team Leaders commence earlier to allow for more training and familiarisation with the overall DPC operations and the operations of their process.
2. Group Leader and Team Leader training be expanded to provide them with training to develop the skills they need as supervisors and managers (e.g. counselling, conflict resolution, presenting training sessions)
3. The appropriate level for Section Leaders should be reviewed. Consideration should be giving the Section Leaders increased responsibilities such as greater involvement in PMP.
4. The recruitment process for Section Leaders be revised to ensure better screening of applicants.

5. All systems and procedures **MUST** be available for testing at the Dress Rehearsal. Introducing untested systems and procedures at the DPC must be avoided at all cost. This applies to all areas not just Input Processing (i.e. Admin, Staff Support, Security).
6. The Flow Control System should be integrated into the MIS. The FCS should be enhanced to allow the recording of location of a CD within a process or store. All GLs and TLs should have access to a facility to interrogate the FCS.
7. All GLs and TLs should have their own LAN terminal. 8. All systems should undergo volume testing to simulate what would represent a typical peak production day. All systems should be installed at the DPC in time to allow ample volume testing and fine tuning if necessary.
9. If the job design in 1996 requires staff to rotate between processes then the processes involved should come under the same line management.
10. The recruitment process for Store's staff should be as close as possible to the process used for other DPC positions.
11. The levels and designations for Store's positions should be reviewed.

STORE AND FIELD LIAISON

Recommendations

Staffing and recruitment

Store's staff perform tasks markedly different to staff employed for clerical/keyboard duties. Some of them claimed that on rare occasions they were patronised by or spoken to a little rudely by some clerical staff, and felt this was because of the nature of their duties.

These were rare incidents which were satisfactorily resolved, and usually revealed a mutual lack of role appreciation. They served as a reminder of the possibility of demarcation disputes or friction between staff performing different duties in close proximity to each other, and reinforce the need to place reasonable emphasis in training on the appreciation of the role and duties of DPC co-workers.

Store's staff recruitment at the Administrative Services Officer levels formalised their equality, although we may have capitalised further on this by mentioning it during initial training.

The method of store recruitment was different to that for clerical staff in that stores staff were not required to undertake the entrance test. On the face of it, this appears to contradict efforts at equality, and some thought should be given to incorporating store recruitment within the general DPC recruitment process. However, stores tasks are necessarily of a more physical nature, and recruitment efforts should keep this in mind.

Dead material

While it is advantageous for live material search purposes to have dead material at the DPC, this may outweigh the cost of storage and transport.

It may be preferable that dead material is kept in the States and searched by State Offices when the DPC identifies missing material through closer record book/CD pack comparison prior to processing.

This would ease the space problem at the DPC, cut searching to a minimum and decrease the delivery cost of dead material. There would of course be added State-based storage costs.

Comments: If dead material remained in the State of origin then they would need to make arrangements for the destruction of this material. Destruction of the 1991 dead material was not a simple process and considerable resources were expended removing reusable items and items that would not be excepted by the paper mills. Other costs would include the need to employ people to supervise the destruction.

Delivery of material

Field training should continue to stress the importance of container packing, particularly in respect of WA where the point appears to have been missed.

Instruct State Offices to advise the DPC immediately where complete subdivision delivery cannot be made. As well as ensuring unnecessary searches through live and unused material do not take place, it will ensure partially delivered CDs do not slip into the processing system and can be held until delivery is completed.

Comments: The importance of adhering to the guidelines must be strongly stress to the State Offices. They must be given an appreciation of the scale and complexity of the delivery of material to the DPC so they can understand the potential impact of varying from the guidelines. Obviously there will be reasons why States will need to retain material in these cases they should immediately advise the DPC.

Post enumeration survey

A combined FCS/SCS as discussed elsewhere in the report would assist greatly in the location of material which frequently changes location and is subject to competing demands. To operate successfully, a system of this kind would need to be supported by adequate shelving bay and floor space.

PES searching was a result of strict PES completion date. Closer consideration of other conflicting DPC demands may be advisable.

Comments: The development of the Input Processing Systems and associated budget and timetables must take the PES requirements into account. Constant communication and negotiations must be maintained between the two areas to ensure the problems experienced in 1991 are not repeated.

Flow Control System

Overall the system was inadequate in that while it efficiently registered new material and recorded movements between Processes, it was not sufficiently adaptable to reflect location demands brought about by 1991 DPC processing arrangements, and could not provide an appropriate range of management information to support those demands.

The most glaring location shortcomings occurred in the CD pack search for PES or refusals.

Management reports available from the system while adequate were a little short of ideal.

It would be advantageous if DPC Systems staff had FCS proficiency, particularly during initial delivery stages when problems requiring immediate attention are most likely to occur.

Comments: It may not be possible to anticipate all material flows at the next DPC when designing the FCS and history has shown that unforeseen events have made it necessary to change the movement rules mid stream. The 1991 FCS could not readily cope with these changes. It is recommended that the 1996 FCS have a facility that allows users to change the movement rules when required.

A system which recorded process/ shelving bay location simultaneously would have been preferable for location purposes, in particular for PES, given that it reaches crucial stages of CD requirement while smaller States are still in the Preliminary Processes.

The FCS should be incorporated into the LAN system to enable convenient manager access to information and report design. Control and access to a small group restricts the ability of management to properly utilise a system which should be used for their Process's benefit. The next location system design should incorporate this broader view.

Mail-in centre

Print the State name on each envelope. The savings in time and in particular quick availability of floor space to store incoming mail is crucial during the early part of the mail-in phase.

Review the estimations for reply paid (FREEPOST) envelopes, particularly in view of the growing trend toward privacy.

Place greater emphasis in Collector training to the need for forms handed to Respondents to include to CDI.

Ensure line asking respondents to disregard the notice if they have already returned their form appears in bold letters at the top of the S6 card.

Bust CDs

The Bust CD task is expensive and consideration should be given to the cost of continuing the task in 1996 compared to the value it has in relation to better CD estimation or identification of boundary 'straying'.

Comments: The resolution of bust CDs did identify cases where significant numbers of forms were included in the wrong CD. It would not have been acceptable to have left these forms in the wrong CDS. While the bust CD process was costly some system of identifying collector error is needed. It is recommended that alternative methods be considered. A review of the current system may reveal that the cost may be reduced by changes to the bust CD thresholds.

For CD estimation, Bust CD investigation can only be a supplement to State Office local knowledge, however, to discover which CDS are affected by boundary 'straying', it seems necessary to firstly eliminate other possible causes, and in this process, bust CDs are investigated and usually resolved. This may suggest the continuance of the task in 1996 unless the number of CDs discovered by the Section to have boundary problems in not considered significant.

Should the task continue, cost saving may be found through setting up a section to handle all boundary problem identification and correction. By default, the area would also resolve bust CDs.

Although this represents no great change from 1986 or 1991, it better defines boundary problem investigation and correction responsibility. The development of a specialised section with responsibilities separate from main processing operations may provide efficient staff utilisation if the boundary problem is considered to be a large enough problem.

Field Liaison Unit

The DPC experience suggests the need for a separate Field Liaison unit to handle all field related matters including Mail-In, refusal identification and searching, other general searching duties, and, due the expertise which would be gained, the boundary problem resolution

A separate Field Liaison Process would ensure these related tasks are concentrated in the one specialist area, and in particular, would facilitate the incorporation of census material and flow control activities into the office operations area, thereby easing the confusion that sometimes exists between the two 'stores' areas, and permitting more efficient staff utilisation when inevitable 'lulls' occur.

Comments: If the Field Liaison responsibilities are separated from the Store function it is strongly recommended that the area be headed by someone from the Field Organisation Sub-section in Canberra. This occurred in 1986 and worked well. If this is not possible then an effort should be made to recruit someone into the position with an appreciation of the Field System. Another advantage of this arrangement is that this person can accept responsibility for the post Census studies conducted on the Field System.

PRECAPTURE

Recommendations

Start date of Team Leaders and Section Leaders be made as early as practicable to ensure longer preparation and training time prior to the commencement of processing.

All completed CD's be removed at a set time each day and the Flow Control report run at that nominated time. This system would give a more reliable and accurate indication of progress than occurs with the run time being varied throughout the day.

Comments: It would not be practical to stockpile completed CDs and move them out at one point in time. The solution to this problem would be to ensure that the MIS provides an accurate measure of the daily throughput. The MIS should be capable of providing this information at any point in time and for any given period. Group Leaders and Team Leaders be trained in the operation of, and authorised to use, the Flow Control System.

The Flow Control System should be integrated onto the LAN system used in the DPC.

Maintain either an electronic or clerical register which shows the location, within the Precapture Process, of each CD.

Installation of microcomputers in all Team Leaders offices.

Comments: These microcomputers must be linked to the LAN

For future processing, contract professional trades persons to perform the gluing task - a procedure which was successfully used in the guillotining process for this Census.

Comments: This task could still be performed by DPC as long as a safe work environment is provided. It is essential that the gluing area be set up and fully tested prior to the area becoming operational. The ventilation system used in 1991 was barely adequate. The correct system may have prevented the problems experienced with fumes. The gluing task, if required in 1996, would provide further variety to the job design. The cost of contractors performing the task may also be prohibitive.

The front page of each Census form should be in some way different from the remainder of the form. The page could be of different colour, include a readily identifiable stripe across the form or have the leading edge a different and distinctive colour.

It is recommended that a system which places stockpiled mailed-back forms in an area within easy access of Precapture processing be used for future censuses. The system should also include a mechanism which alerts processors that there are outstanding mailed back forms which are to be inserted into the CD packs.

Either use contracts which specify that operating machines, and rostered work, are conditions of employment (it is a contradiction to allow staff full flextime entitlements whilst instructing the same staff to work on roster until 5.30-6.00 pm each day) or develop a budget/system which does not require compulsory staffing of machines outside core hours.

Incorporate the Data capture process into the Precapture process under the control of a single Group Leader. If it is necessary to maintain Data capture as a single entity, use Precapture staff as operational staff in the Data capture Process i.e. use Precapture Section Leaders to supervise Precapture staff performing Data capture tasks.

Ensure that relevant and complete documentation is available when Training Manuals are being developed.

Comments: It is important to ensure that the early start processes at the DPC have training and procedural documentation to at least the draft stage before the Group Leaders and Team leaders start at the DPC. This is particularly important when the Group Leader and/or TLs have no previous DPC experience.

Larger offices be provided for Team Leaders.

Private areas be provided for counselling and related purposes.

Lockable drawers should be provided prior to the beginning of the process. This is especially important if staff operate on a job mix scheme where they are expected to be absent from their desk for lengthy periods.

Laser printers and photocopying machine be installed in the near vicinity of the process.

Comments: This equipment should be located where it can be supervised or secured to reduce the risk of breaches of confidentiality or misuse

A supply of stores be available to the processors as they begin work in the section.

Improved procedures/planning in supply arrangements.

Comments: The Office Operations Area needs to be set up prior to the Group Leaders starting at the DPC. Set up would include sufficient amounts of office supplies needed to meet the needs of the processes that start in the early days of the DPC. The procedures for obtaining office requisites should also be in place.

Provision of an implement designed to remove white-out.

Comments: This recommendation relates to the need to remove excess white from the Census forms to avoid damage to the OMRs.

Provision of mats designed to protect desk-tops.

Comments: This recommendation relates to protecting the surface of the desks from whiteout applied by processors when repairing forms.

Increase the number of Group Leaders in the Precapture Process to a minimum of 2 and ensure that each Team Leader is responsible for a maximum of 40/50 temporary staff.

Training of Team Leaders in critical aspects of the job, such as counselling, should be conducted prior to the arrival of temporary staff.

Training of ASO 2 Section Leaders in communication, supervision, conflict resolution and negotiation skills should be delivered by ABS training personnel during the induction and training phase.

Clear guidelines must be set on the organisations expectations of acceptable management strategies for EEO, ID and OH&S.

An appraisal system which is more easily managed and includes a greater variety of categories be used in future DPC environments. The strategy of delivering PMP appraisal to staff prior to completion of processing should never be used again as it caused morale problems with staff and heartburn to the permanent officers who administered the program.

There should either be live data or practical examples available for training purposes. This will enable the inclusion of 'hands on' exercises in the training program.

Extensive training of permanent officers should take place prior to the commencement of temporary staff. Topics covered during the training should include management, conditions of service for temporary employees, counselling and stress management.

Executive management should instruct Team Leaders on management philosophies and expected behaviours.

Adequate time should be allowed for the preparation of training sessions for the ASO2's and ASO1's.

Formal dependencies between processes be identified prior to the start of the process and appropriate procedures be put in place to cater for these dependencies.

DPC Management should issue specific instructions on their policy in relation to staff discipline and dismissal procedures. The instructions should include an explanation of the steps needed to be completed before termination of contracts is possible.

Regular staff meetings, involving all permanent staff in the preliminary processes, should be held so that open discussion and debate is possible. This would enable people affected by decisions made at executive level, to be involved in assessing the ramifications of such decisions.

DATA CAPTURE

Testing

Production testing for OMR should simulate live conditions and should occur at a time that would allow any problems with hardware or software to be dealt with. The testing for OMRs should continue until all 22 machines are operating satisfactorily for ten hours a day. This would uncover any system problems, give an indication of the level of maintenance required, and allow time to develop procedures for staffing the machines in shifts.

Production testing for gluing should also simulate live conditions. This would highlight the problems that were mainly a result of the environmental conditions, i.e. the air conditioning and exhaust systems. This testing also needs to be done at a time that allows testing of a variety of glues and in time to change the environment.

Staffing Issues

There should be only one management structure for both Data Capture and Precapture. This would eliminate the communication problems that occurred between Data Capture staff and Precapture staff. There is still a need for technical expertise to be retained in OMR and gluing. An AS06 and AS05 should be retained for this function, but perhaps only during initial testing and until the process is operating smoothly.

The 2.5 hour shift system using Precapture staff should be maintained. It provides a more interesting job mix and was useful in that staff operating OMRs could get feedback on the level of grooming of forms that was required. The gluing process should be maintained. It proved to be an efficient way of binding census forms and contributed to the job mix of Precapture staff.

Under ideal conditions a throughput rate of 3,400 sheets per hour per OMR is achievable. Because the 2.5 hour shift system involves a six week learning curve for OMR operators allowances for this should be included in any budget and throughput projections.

OMR Maintenance Program

A program of preventative maintenance of OMRS was vital to the success of the process and should be maintained. The contract with TCG for a one hour response time to OMR breakdown was sufficient. The combination of preventative maintenance and one hour response time meant that there was nearly always an engineer on site to attend to machine problems.

Guillotining

This process worked extremely well due to being operated by appropriate technical staff. It should be contracted out again in the future.

PRELIMINARY PROCESSING

Attempt to give Team Leaders and Section Leaders one week working with live data before the staff they are to supervise arrive. Plan to push about 100 CD's through all processes to achieve this in each area.

Remote Area form design should be finalised no later than for the household and personal forms. Remote Area forms must be put through the Dress Rehearsal processing system (even if it is only a mock-up CD) and possibly the Major Test processing system, if the form design is close to being finalised at this stage.

If a RNO imputation program is required in the future there needs to be an additional page on the balancing printout that advises when a record number has been imputed. The processor should then check that there is a valid form for each imputed number.

Consider having a Quality Control section within Preliminary that checks a percentage of each processors work and provides feedback.

Ensure that all Data Capture equipment to be used for Census Processing be installed before or soon after the Dress Rehearsal, so that a volume test of data can be attempted over several weeks.

Permanent staff should be given training on how the Processes that they are not assigned to work.

The Flow Control system should go down to the bay number level, with a facility for selected processing staff to enter a Section No. against a CD which they could refer to for work allocation purposes.

Any process that is required to match printouts to specific CD's to maintain work flow should be located on one floor.

CSD support must be located at the DPC to minimise down time and non-productive person hours due to programming problems.

POST ENUMERATION SURVEY

The Sample

An effort should be made to reduce boundary discrepancies for the 1996 PES. PSO need to check more carefully that the samples fall within the nominated CDs. An investigation should be conducted to see if dwellings excluded from the sample can be compensated for when selecting dwellings for the 1996 PES.

Depending on the strategy adopted for searching in the 1996 PES, search addresses may be transcribed onto the 'Workload Search Addresses Form' during this process rather than matching.

- amendments to the CCF system as specified above
- leave blocklists in workloads and remove after matching

Matching

Record Books should be retained in the CD boxes. These are an essential tool enabling fast access to households within the PES sample in most cases

The decision table within the matching instructions was very well received, with temporary staff having nothing but positive comments about it. It was particularly useful at the beginning of the process, or in difficult matching situations, and should be retained in future matching instructions

Matching vacant PES dwellings was extremely difficult in some cases. Address information given on the PES form and/or the collectors record was often very inadequate in the case of vacant dwelling. This should be discussed with Census field and PSO sections to ensure the quality of addresses for vacant dwellings is improved

The alternative address given on the front of the PES form was quite useful on occasions and should be retained on future PES forms

The missed dwellings/persons form was again very useful both for matching and quality control purposes and should be retained. More information should be included such as whether a person has a search address to be investigated. The respondents opinion as to whether they were counted in the census or not should also be included on this proforma, as well as an indication as to whether they were included on Q43 of the census form (i.e. in the form but not counted in the household).

Missed dwelling cards should be altered to allow tick boxes for the following categories:

Listed in error; Demolished dwelling; Derelict dwelling; Converted to non-dwelling.

Labels were incorrectly printed on the CD pack labels. Those CD's marked PES were not PES Cd's and visa versa. Once recognized, this did not cause a problem, however it would obviously have been preferable for the labels to be correct Use common mnemonics between Census and PES forms.

More hands-on training given to Section Leaders before arrival of processing staff - some Section Leaders initially lacked confidence which hampered their effectiveness.

Census Collectors need more thorough training over all. The condition of record books and the thoroughness of the collectors impacted on the efficient completion of the PES. In particular more details are required of unoccupied dwellings in rural areas. Maps need to be marked more accurately and consistently - this applies to rural and non-rural CDs.

Provide more room in the Workload Search Address Form for the search address, information obtained re the location of dwellings, the CDs to be searched, the location and arrival of the CD in the PES area, the date requested and the date arrived and the result of the search. Space should also be allocated to indicate if the person considers that they were counted in the census.

Commence listing of search addresses in the preliminary process.

Matching should have a time-table that ties in with the pre-capture process, i.e. it should finish shortly after pre-capture.

Organize in advance with Australia Post for access to addresses for PO boxes.

Matching QC

The Rbase system used was limited as to the number of error types that could be used (i.e. only 9 were available) slight expansion would allow greater definition of errors.

In QC training, more emphasis should be placed on whether the person considered themselves counted in the census.

All missed persons and dwellings should be checked by the QC group. A specialist AS03 position should be created within PES to verify all missed persons and dwellings, and correlate statistics on these for the team and group leader. This would take some pressure of the process management and allow more time for analysis of this data.

Searching

Search addresses should be identified and flagged on the flow control system as soon as possible in processing to allow more search CD's to flow from the Pre-capture process. Resources should be allocated at the beginning of processing to cater for this. This would mean the process would have to be initially larger both in area and staff numbers to cater for the influx of CD's for both matching and searching.

Census CD packs located in the stores area should be stored in logical order (i.e. by flow control day) to allow easy access to census forms. Perhaps a good method for this would be to have the flow control system incorporate bay number as well.

A data base should be developed which allows census CD's flowing into the PES area to be matched to the workload and form within the workload that requires the search. For the 1991 PES, a TSS dataset was created and interrogations done by the 'find' command. Although this method was reasonably successful, a more refined system should be developed.

Quality control should be done on persons who were not matched at their search address, particularly if they indicated that they were counted in the census.

List and explain to processors in advance of searching migratory and shipping CDs. A list of CD's for hospitals should also be done.

More awareness of resources already available e.g., the DZN listing and the Census PCF. This could provide us with the postcodes associated with particular CDs.

Retain record books in the packs and P 34 with record books. If P34 (or its 1996 equivalent) is required by the states, then it could be removed in data-capture or preliminary processing.

Possibly use of CDATA 91 as a tool to identify possible CD's in a suburb. Although the CD's presented would be on a 1991 CD basis, it would still be of tremendous help in most cases.

If a person indicated that they were counted at a search person, then all other steps must be pursued to match the person. e.g. If the person gave an household address in a street but were not matched at that address, then the whole street should be searched. If the person gave an address as a hotel in a country town but was not matched, then other hotels within the town should be searched if practical. Consideration should be given to allocating match code of O (vague address) in some of these cases.

It would be useful for someone from the census field organization group to give initial training for use of street and CD maps when determining search addresses.

Edit and Amend

If the PES variables do not change significantly (which they shouldn't), it is recommended that the same system be adopted for the 1996 PES. Only slight modification of the system would be required. This would include:

- an edit change allowing no people to be present in a household where there has been a death or illness (RSTAT=7)
- an edit change allowing persons to be in a household that is a diplomatic dwelling (RSTAT=15).
- if OMR data capture is not used, then FSN (Form Sequence Number) cannot be used as a record key, and the edit/amend program will have to be modified to cater for this.

Performance Management Program

The CES test score should only be used to initially recruit staff to the DPC and should be disregarded in further appraisal.

The appraisal system should have a larger range of categories in which to evaluate work performance.

If there are PES staff rated as satisfactory on the order of merit, then these staff should be acceptable for filling AS02 positions that become available.

Preliminary Processing Meetings

Meetings should be held between group leaders of preliminary processes as necessary.

MAIN PROCESSING OVERVIEW

Quality Management

1. A quality assurance manager position should be designated as a focus for quality management activity at the DPC.
2. The 1991 quality control system should be scrapped and replaced with one which is better designed and focused on providing information on overall error rates with information for feedback to individuals as a secondary function.
3. The quality control coding should take place immediately after CAC and be done by CAC coders to improve timeliness of feedback. Training.

Training

4. A CAC training coordinator should take up duties well in advance and be responsible for the preparation of all training documentation prior to the DPC and coordinate CAC training at the DPC.

5. Classifications and other specialist areas should be encouraged to continue to provide staff to assist in training at the DPC.
6. Training systems need to be redesigned to be more flexible, allow greater 'real life' coding and provide quicker feedback.
7. Training environment needs to be carefully considered and free from distractions and obstacles.
8. A training review should occur a month after initial training. More detailed refresher training following on the outcomes of the quality management process should take place within three months.

Systems

9. Specifications for all significant DPC systems should be finalised by the end of 1994 so that these systems will be available and tested in time for the Dress Rehearsal.
10. Any systems changes after the Dress Rehearsal should have strong cost or data quality justification.
11. Data validation to identify input processing problems should be part of the DPC work program and be part of the overall quality assurance program. More use should be made by Output of test IPURF and IFURF to improve timeliness of feedback to the DPC.
12. Much of Edit/Amend work should be reintegrated with CAC. As much of family coding as possible should be undertaken during CAC. CAC coders should do the editing.
13. A system to allow the insertion, deletion and modification of records, online examination of CDFURFS and rebalancing of CDs after main processing are needed.

Coding and Classifications

14. The location of classifications staff at the DPC for the first three months should continue.
15. Form design and testing needs to encompass the adequacy of the responses for coding.
16. JTW and SLA street indexes should be integrated and be ready by the end of 1995. The state for the dress rehearsal should be notified well in advance so that these indexes can be prepared in time.
17. The relative merits of using the Business Directory as against the use of a revised industry question for ASIC coding should be considered.

Query Resolution

18. An electronic query resolution system would save resources in improving the handling of queries. Whatever system is implemented, centralised handling of queries, as introduced at the end of processing in 1991 should continue.
19. The balance between what is permitted to be coded by CAC and what is raised as a query should be examined.

Special Projects

20. Acceptance testing should remain a user responsibility at the DPC as part of the quality assurance process.
21. More direct links need to be developed between the DPC and the Development and Evaluation Section in CO. This could be achieved by encouraging staff from this area to apply for DPC positions.
22. CDs for studies should be chosen well in advance.

Management Information

23. Further integration of MIS should be undertaken. In particular, flow and store control information should be available through the MIS.

24. Team leaders and above need to have access to the MIS.

COMPUTER ASSISTED CODING

Initial Training

All documentation should be updated after the Dress Rehearsal to make preparation for processing easier.

A CAC Training Officers be appointed. Their role should involve:

- liaison with each of the Group Leaders;
- helping to plan the time table;
- ensuring the content of each separate course is consistent maintaining an updated copy of the session notes; organising training materials;
- facilitating team building and communication among the permanent officers. . training system problem resolution

The training course should tutor with the permanent staff to detect any weaknesses.

Training in groups of up to thirty to continued as long as individual support can be given to those having difficulty during the training. This needs to be followed up on the job.

Theoretical presentations should continue to be solidly reinforced with as much practical content as possible.

Support from other areas in training preparation and presentation such as CS&D should be encouraged.

The Process Overview session that was conducted for some courses should be a compulsory part of training.

The session explaining CDs and other terminology should be expanded to include a full explanation of all forms used in the Census.

Due to the complex concepts in Occupation coding it would be advisable to split this session over two days.

The Qualifications session should not follow straight on from Occupation. A less complex topic should be covered in between.

Industry coding presented a conceptual problem for many people and should be conducted before Occupation and qualification training.

The five practice CDs that were used as exercises during training, should have been shorter and the answers corrected to provide feedback to the trainees. Practice training CDs would be more useful if they:

- contained a range of forms, such as Summary Forms and Remote Area Dwellings;
- were tested thoroughly for appropriateness against the training content;
- were better integrated with the topics being covered;
- provided a marking system that was flexible enough to allow for changes in procedures; provided quick feedback on correctness of coding. Only one User ID should be allocated to be used for both training and coding in the production environment.

Support Training

Keycoach should be available on a system that uses the same keyboard as the one used for coding.

On the Job training

A Section Leader's manual should be prepared to cover administrative issues common to all the DPC Processes.

Refresher Training

To capitalise on the full benefits of retraining it needs to occur much earlier in the process.

CAC Stability and Response Time

Evaluate the possibility/value of having computer based storage facilities for CDFURF's and indexes situated in the DPC rather than in Head Office.

The PCF should be split into state specific files, for example 'CQK.PCF.NSW'.

Batch Status

Batch Status option should be changed so that only persons with access can examine it. This would generally be Section Leader and above.

Street and Business Code Lists and Dictionaries for NSW and Vic.C, if processing order remains as it did for the 1991 Census and Business coding is retained, should be placed on different storage volumes so that accessing both indexes does not cause any delays.

CAC Screens

Do not blank fill any entry fields in CAC.

Have indexes displayed in uppercase.

CDI Entry Procedures and Menu screens

Move the SIMULATOR and TRAINING SYSTEM option to the CDI entry screen.

Remove the "LOG OFF Y/N" option and replace it with F4.

The display of the Postcode of Enumeration screen should only be displayed once for each SFNO in a NPD or Caravan Park.

When an imputed age is coded as no response, change the leading digit from 2 to 3.

When a Marital Status has been imputed, bring the coding screen up for coding and handle the same as AGE.

Automatically code the response to Q13 as NO if the Birthplace for the respondent is not Australia or Torres Strait Island.

Correct the processing of Q42 so that only the required questions are asked.

Add a no response option, no response, to all selfcoding screens, including GNG. The F9 key should remain.

Birthplace, Religion and Language Coding

Could the most common 'short' responses be displayed at the top of the coding screens if they fall within the possible match list.

The birthplace of the reference person should be, if carried over as a default option on the Birthplace of Father and Birthplace of Mother screens.

Display the most probable language based on what was selected for the BIRTHPLACE questions.

Address

Remove the UAD and UAF Self-coding screens.

Street coding should be given an identifier that links it with bordering localities.

When a street name truncation is entered, and no match is found in the locality given as a response, the streets in bordering localities would be searched and any matches displayed.

If there are matches to the street entered in the locality used, an option of bordering locality check would be added as the last option on the last screen of matches. Selection of this would display matches in the bordering localities only. Also, as there may be duplicate streets in bordering localities, a method to exclude or weight these would be needed.

Capital City names should be sorted to the top of the Locality Coding screen, with the CBD coming first followed, in alphabetic order, by the surrounding capital city entries, such as:

MELBOURNE CITY; MELBOURNE EAST; PORT MELBOURNE; MELBA GULLY

On the Street Coding screen, the street display should be moved and changed so that it matches all other types of match display.

Occupation and Qualification Coding

If possible, give the option of more than one set of colours when coding Occupation and Qualification.

Add an option 'PREVIOUS SCREEN' for Occ and Quals so that if the wrong entry is selected which shows a more detailed screen, you can return to the previous screen without having to key in the response again.

When a dump Occ has been selected, such as housewife, student or pensioner, and no other Occ has been selected, the GNG, DZN and IND should be set to not applicable.

Remove Business Coding from the processing system. The questions would then have to be coded using the Employer Address, GNG and Industry screens. This may require upgrading of Industry capture and coding.- Removal of Business coding is owing to the following reasons:

- (a) Low match rates (ave. 35%) when full coding is used,
- (b) The amount of CPU required to extract the data from IRIS as well as putting the data through formatting, expansion and other utilities to gain the final product,
- (c) Clerical time required to examine large employers to ensure correctness and add commonly used names (such as school names),
- (d) Clerical time required to examine and add government employers
- (e) Storage space required to store the indexes initially up to 250 cylinders for NSW - as well as similar storage space for the code list and dictionary files,
- (f) Response time lag which was partially caused by the size of the Vic. and NSW indexes. g) It could also be possible for the coders to have to scroll through 50 pages of possible matches.

If Business Coding is retained:

- The option to be able to select both the NAME and ADDRESS should be made available.
- If the name and address are correct, as well as the displayed ASIC code, the Coders would have to place a slash next to both the name and address. This would write the GNG, ASIC and DZN codes.
- If the name and ASIC are correct but the address is wrong, a slash would be placed next to the name only. GNG and ASIC would be written. The address would be coded using Employer Address.

Business coding should have the default option display of 'SAME AS PREVIOUS PERSON'. If this is selected it would write the details from the previous PNO to the question being answered. These would only be displayed if the previous PNO coded was the actual previous PNO. E.G. If coding PNO 3 and the previous was PNO 1, this would not be displayed.

Form Identifiers and Verification

The ability to recode any question should be made available.

The Postcode of Enumeration screen displayed for every RNO.

RNO and PNO to be displayed differently, i.e. PNO under RNO:

RNO: 111

PNO: 12

Problem Correction Process

An electronic Problem Reporting system, similar to the Query system, should be developed for quick and easy reporting of the problems.

A utility be developed that will enable Team Leaders to easily edit CDFURF's.

User Ids

One series of user ids be used for CAC processing. Edit Amend/QC/QR should also be supplied with a CAC user id.

Change the PCF to record the last three digits of to two user ids for QC purposes.

An edit is required that looks for a large amount of no response codes in a CD. This should be the first edit applied to a CD, and could even be carried out once a CD has reached PCF status 12.

Family Coding

Retain Family Coding as a mainly clerical task.

Change the entry of the Family Report so that the Coder does not need to enter the RNO and select relationship each time

The Recode facility be available on the Family Coding screens.

Simulator

The LOG OFF (Y/N) option be replaced by F4. Pressing F4 would take the Coder to the previous screen.
(Refer 10.10.3 - Training System)

The training system should have training specific indexes.

The user id that a Coder uses during training should be their production user id.

A utility should be developed to aid in creating and amending training Furfs.

Training officers/team leaders should have access, and training, to resetting Coders passwords.

CAC or the Training System should be modified so that any new procedures can be taught the same day they are activated.

An electronic HELP facility should be available in CAC.

Terminals

If the M780 or a similar mainframe is to be used for the 1996 Census, the Telex terminals should be retained in appropriate storage so that they can be used.

Have the function keys changed so that they will carry out only one action per key stroke. For example, holding the F9 key down will only write the F9 value to one field.

Have the function keys re-organised so that critical keys are not near general use keys if the Telex terminals are retained for 1996.

All the utilities available that relate to CAC and CDFURF's in TSS should be put together into a package so that they are available to all prospective users.

All CAC connected utilities should be documented.

System Changes Process

All updates that effect the general coding staff are notified.

Job Design

The job design of Team and Section Leaders should include a component on problem investigation.

EDIT/AMEND

Devise and implement effective acceptance testing procedures for the family and edit systems.

Family reformat to be run during the last phase of Preliminary Processing as the PCF moves to 10.

Family queries should appear and be resolved online through the CAC process.

Visitors should automatically be set to 'not applicable'.

Editing should be undertaken by CAC coders.

Derivations automatically reset/recoded if fields altered and discrepancies should appear as edit.

Separate PCF allocated to rebalancing CD after edit phase is complete.

Devise an edit to check for unusually large numbers of "non response" in a coded CD.

Development of an amendment facility available to Team and Section Leaders. Menu driven with following headings:

CDHEADER - INSERT - DELETE - AMEND

DWELLING RECORD - INSERT - DELETE - AMEND

PERSON RECORD - INSERT - DELETE - AMEND

Team Leaders to access to userid amendment and CD reallocation facility.

Ensure PCF file cannot be overwritten by concurrent users.

Development of a menu driven recode facility for use by Section Leaders.

QUERY RESOLUTION

Electronic Maps

Start maps to be available electronically.

NB: CO Field have recently put out to tender, the provision of an electronic map system.

Specialised Resolution Unit

Centralisation of the query resolution function should be implemented.

Separate Resolution/Keying-in Function

An automated on-line system which permits electronic access to queries, query resolution and application of that resolution to the file by the same Operator should be provided.

QUALITY MANAGEMENT

Systems

The QC system should be redesigned.

Adjudication and Training

Future QM process should maintain adjudicators as a separate pool of staff.

The role of QM in training, refresher training, and tailored training for individuals should be retained and broadened to include coordination of Quality Management Teams and training of CAC managers in issues affecting quality.

The responsibility for quality resting with CAC managers should be emphasised.

The MIS should be used again to make information on quality accessible to managers and QMT's.

Quality Management staff need to provide training to the members of the QMT so that they are aware of the data that is available and how to analyse it.

Timely updating of business directory be carried out.

Perfect matching on business address not to be required.

QMTs to be advised to what degree accuracy on coding is required.

Potential OH&S problems with paper mites, other insects and dust accumulated during storage are addressed before the next census.

The transport of CDs to CAC should be put on a just in time basis and shelf space freed used as section CD stores.

That fire wardens should be appointed and trained, an evacuation plan drawn up and appropriate fire extinguishers in place before temporary staff start. A fire evacuation take place as soon after the DPC reaches full strength as practical.

That some system to feedback to staff on systems updates be developed.

SPECIAL PROJECTS

Clerical Work within the group.

As there is a mix of conceptual, clerical and keyboard work, there should be a greater proportion of multiskilled staff in the area.

Work program of the group

The role of the Special Projects area should be clearly defined and its relationship with other areas (particularly development and evaluation) clarified.

Validation of IFURFS for Output

Provided that Output do get an IFURF to test well before the Census and provided that Special Projects investigations can be performed on a sample of records rather than on entire IFURFS then problems with space can be prevented.

MANAGEMENT INFORMATION SYSTEM

All information systems relevant to the DPC should be integrated.

The unit measure of work in precapture should be dwellings per CD and not CDs.

Any MIS operating at the next DPC must be operational before production commences.

All Team and Group leaders to have direct access to MIS.

Group Leaders and Team Leaders need continuing training on the operation of any MIS.

SYSTEMS

To have the Pop Census Applications team on-site for the first 5 months of processing to deal with the quantity of system problem that always arise during that time. It would also be of great value to have one person from the team stay on after the rest of the team return to Canberra. This person could be in charge of the Processing Requirements group from the start.

The Processing Systems specifications should be complete by the end of 1994 and the acceptance testing of all key processing systems be finished prior to the Dress Rehearsal. This will provide time to rectify system problems which surface prior to production. Any systems changes after the Dress Rehearsal should have strong cost or data quality justifications. All systems should undergo what would represent a typical peak production day.

System problem reporting and operational aspects be centralised on the Computer Room including emergency system reporting and the UDBA responsibilities.

Acceptance testing should be performed by the subject matter areas that raised the system modification. Emergency system maintenance personnel should be located separately in the Systems group.

That consideration be given to an on-line problem reporting/diagnosis system, for use by section leaders and above, systems staff and management.

Identify particular needs and provide technical training on the various systems used at the DPC before production begins, Preferably before arriving at the DPC.

On-site engineer support for the OMRs/OCRs be obtained for the next DPC.

The Targon 31 machines and the CODES software used for the Data Capture process at the 1991 DPC not be re-used at the 1996 DPC.

The reformatting step done by the Targons this time could probably be better performed by the mainframe in the future.

More robust and informative Targon to Mainframe Batch Transfer software be used for the next DPC.

It is recommended that the use of newer technology such as Magneto-Optical drives be considered for on-site backups wherever possible.

A remote login facility, where a user may login to either of the Targons via any LAN connected PC, be made available.

Cordless Telephones be used in the computer room.

Allocation of separate print classes for different processes of the DPC.

General Recommendations for Systems

The use of a facility called PURGOJOB or similar to purge all unwanted 'X' class output on successful completion of jobs. Initial cabling layout to provide the maximum flexibility during and after different processes. Census Planning to provide CSD with details of the amount of flexibility desired.

3270 environment along with the mainframe communications employed at this DPC (e.g. redundant communications line and automatic switching facility) be considered for the next DPC.

ADMINISTRATION OVERVIEW

1. A forward plan, addressing both major issues and detail, be prepared well in advance, and documented. It is desirable that the processing areas be consulted as to their needs as part of this process.
2. Formal delegations be organised and issued well before the commencement of the DPC, and hard copies issued to each relevant officer.
3. The management structure and staffing levels of the Admin area be reviewed.
4. Group and Team Leaders be offered training in counselling techniques, particularly in relation to disciplinary matters.
5. One body of temporary staff at be recruited at the beginning of processing, and that same group be carried through to the end. This would require significant changes in work design for the processing areas, and careful assessment of whether processing time would be likely to exceed 12 months.
6. Careful consideration be given to the issuing of fixed term contracts to all temporary employees.
7. CES be used in arranging the initial stages of the recruitment of temporary staff.
8. Applicants for supervisory positions be required to submit a written application, as well as sitting speed and accuracy tests.
9. Vacancies arising after initial recruitment be filled through a normal selection process.
10. A structured and detailed induction programme be offered to new starters at the next DPC. Hard copies of the relevant information, in detail, should be provided to all staff at the time of induction.
11. Senior management formally draw the attention of the PSU at the National level to the problems experienced with AGESt.

12. Realistic accommodation rental ceilings be set for officers moving to the next DPC.
13. Careful consideration be given to accommodation requirements before the site for the next DPC is selected.
14. Given that it is likely that job design and technology for the processing of the next Census will be significantly different, it is vital that there be early consultation with the PSU on all relevant issues.
15. The cost of training staff as OH&S reps, be included in budget planning.
16. Training and Development strategy be developed for Permanent staff which addresses both immediate and long term needs, and integrates with ABS national strategies.

PERSONNEL OPERATIONS

All overtime meal allowance to be paid in cash from the Paymaster.

Security Passes to be made up and documentation copied for new starters after selection interview rather than at Induction.

Staff be issued with a certificate on separation showing their service details with the Data Processing Centre.

RECRUITMENT

Recruitment Section be up and running prior to the examination of applicants so databases and procedures and training can be planned and established in advance.

Recruitment and Personnel sections be situated as close as possible together.

A strategy for all aspects of initial recruitment of temporary staff be developed early.

Permanent staff assisting in the interviewing process be given a brief training session on interview techniques.

If large numbers of vacancies arise, they should be advertised internally. Shortlisting should be done on the basis of written application, performance appraisal results and referees reports. The selection panel should only be given access to appraisal forms if the applicant agrees.

Prior to recruitment of temporary staff for next Census it should be determined whether arrangements can be made with the PSC to employ temporary staff for the length of the process to avoid problems encountered with the 12 month limitation for temporary employees.

FINANCE

A BTL salaries bank account with a limit of \$50,000 operate at the next DPC.

Direct credit of salaries to bank accounts be retained at the next DPC.

The Travelling Allowance advance be \$5,000 and the Petty Cash advance be \$2,000.

Some effort should be made prior to the next DPC to ensure that the method of obtaining information for the production of Financial Reports is the same at the DPC as at C.O.

Cab-charge vouchers be used for official transport.

The Finance system be in place as early as possible and at the latest by the start of the Financial Year.

OFFICE OPERATIONS

It is recommended that more attention be given to floor layouts at the next DPC paying particular attention to the available facilities verses staff numbers.

Careful consideration be given to the issue of childcare facilities for the DPC.

The computerised assets register be maintained between Censuses by Census Administration section.

It is recommended that when the site for the next DPC is being researched that the air conditioning system in proposed sites be closely examined.

The ratio of pay telephones to Temporary staff should be increased.

Supplies needed at the start of a DPC be examined closely before the next Census. Orders need to be placed prior to the DPC being set-up with delivery being arranged for early in the life of the centre.

A high volume photocopier be provided for the next Census.

The need for canteen facilities should be examined.

Two vehicles be hired for use at the next DPC. One should be a medium sized delivery van and the other a station wagon.

The AGCC system be used for Purchasing at the next DPC.

A drivers licence be made a desirable criteria for the Purchasing Officers position.

INDUSTRIAL RELATIONS

One position in the Census Administration area or the Population Census Input Group be responsible for consultation with the PSU.

A Consultative Council be established and Union facilities Package be negotiated. These are to be consistent with regard ABS industrial relations policies.

The work design for Coding staff should include a variety of tasks to give the staff a break from screen based work and to limit the number of OH&S breaks.

Section Leaders be classified at the AS03 level.

Accelerated increments should be considered only if it is considered that it would benefit recruitment/retention of staff.

SECURITY

Appropriate security arrangements need to be developed taking account of systems/procedures in place in other ABS offices. Access of temporary staff to the building should be restricted to necessary hours only.

Security locks should be connected to the computing equipment at the same time as it is installed.

All desks have lockable drawers and keys before staff commence duty

Some form of security should be provided for photocopiers and faxes to stop the unauthorised use of them.

STAFF SUPPORT

Initial workstation assessments to be carried out by group and team leaders (after training from Staff Support) with difficult cases referred for further assessment.

Current ergonomic furniture be available for all staff.

Formal lifting and handling sessions for all, especially stores staff.

Storage of packs on shelves to be as much as possible between shoulder and knee level.

Stacking of packs to be limited to shoulder height.

Reassessment of the vast amount of movement of packs throughout the building in order to reduce enormous amount of lifting and handling for staff.

Early professional inspection of glue area with emphasis on adequate ventilation and chemical composition of glue.

Detergent-free soap and barrier cream be made available from beginning of processing.

Recessed lighting/light diffusers.

Lightweight curtains, venetian blinds or tinted windows for control of glare.

Early professional assessment of noise level of machinery.

The aesthetics of the working environment be addressed.

Questionnaire for permanent staff to be designed and used much earlier in the process to assist with developing management skills, dealing with stressful situations and as a vehicle for performance feedback.

COMPENSATION AND REHABILITATION

Central processing of Field compensation claims to continue.

Information sheet for all field staff/managers outlining method of making claim. Dog awareness programme for field staff be included in initial training.

Review of shoulder bags used by Census field staff.

NOTE: Field staff over 65 years are not covered by the CERR Act.

Guidelines for issues affecting temporary staff under CERR Act be clarified.

Bulk eye-screening of staff be again held at the workplace. This should be in line with relevant ABS policy.

TRAINING

A formal program such as the SDP be offered to staff again dependant on their level of development on commencement at the DPC and the classification and expectation for the managers of a DPC.

Ensure additional module length is kept short to allow staff to attend without concern over time away from the work place. Modules could be conducted over half days allowing staff to return to the work in the afternoon.

A formal program presented over several days with breaks if possible should be presented for all group and team leaders addressing many of the immediate expectations of the supervisors and including involvement from the assistant directors. This should be presented over the first few weeks at the DPC and prior to staff commencing. The course for example, could be conducted over 5 mornings and could include: EEO, Counselling Workshop (similar to the half day provided), basic supervision skills, conflict and negotiation skills, OHAS training, information from Personnel, On the job training skills. This would give all staff a basic grounding in skills many needed almost immediately. More detailed courses could be included as part of a development program at a later stage.

A practical presentation techniques course should be conducted for any staff expected to present up front training sessions but without the expectation of staff to complete manuals, notes, and training materials at the same time or within a matter of days of attending the course.

This course could be included as part of the suggested orientation program for all staff.

Both these recommendations indicate the need to allow more time for staff both at the team and group leader level to gather and learn the information necessary to confidently commence in their duties at the DPC. Staff would be able to develop links with other group and team leaders prior to the commencement of the temporary staff and before many deadlines.

Consider a formal but short introductory program for temporary staff to give a similar and consistent perspective on DPC supervisory issues.

Appoint a coordinator for the CAC training. This person could be responsible for many functions such as:

- coordination of the development of training session notes, materials and exercises for the many various training sessions to be conducted,
- the coordination of concurrent training programs ensuring timetables run to time and that all presenters are reminded of the session times.
- individual feedback to session presenters,
- coordination, compilation and printing of necessary training manuals and notes, and
- management of the CAC training system and simulator.

Ensure training manuals are complete and correct prior to temporary staff training commencing.

Consider the possibility and the benefits of a trial run of the training program for the relevant team and group leaders prior to the commencement of temporary staff.

AUSTRALIAN BUREAU STATISTICS MANAGEMENT COMMITTEES TO ADDRESS SPECIFIC CENSUS ISSUES

Social Statistics Steering Group (SSSG): The Steering Group's Terms of Reference that are related to the Population Census are as follows:

- review the strategic directions being taken on issues which cut across or which impact on other Divisions and Offices;
- identify and develop strategies to resolve areas of concern in internal ABS Census consultation processes and coordination, particularly with the operation of the supporting committees;
- oversight the review set out in the Portfolio Evaluation Plan.

Composition

First Assistant Statistician - Social and Labour Division (Chair)

Deputy Australian Statistician

First Assistant Statistician - Industry Division

First Assistant Statistician - Statistical and Information Services Division

First Assistant Statistician - Corporate Management Division

Deputy Commonwealth Statistician, NSW

(Other First Assistant Statisticians and Deputy Commonwealth Statistician to attend for issues of interest)

Output Planning Group: to oversee the output planning, marketing and public relations aspects of the Census and the development of a business plan for the 1996 Census and advise on the consultation process.

Assistant Statistician - Population Census (Chair)

Director, Population Census Processing and User Services

Director, Corporate Marketing

A Director from Data Management Branch

Three representatives from State Offices

Assistant Director, Client Services and Statistical Support

Assistant Director, Product Development and Systems

Assistant Director, Consultancies and Profiles

(Other officers from both Central/State offices to attend for issues of interest)

Data Capture and Processing Management Review Committee: to review and approve all proposals relating to the use of Information Technology for the capture, coding and processing of the 1996 Census data; to review and approve the documentation associated with the tendering and evaluation of all outsourced systems including the data capture and flow control systems; and to oversight development of the processing systems.

Assistant Statistician - Population Census (Chair)

Assistant Statistician - Technology Support

Assistant Statistician - Technology Applications

Director, Population Census Processing and User Services

(Assisted by members of the Project Team and supported by a technical steering group)

1996 Census Mapping Project Management Review Committee: to review and approve the documentation associated with the tendering and evaluation of the Census mapping project, having regard to the Census and corporate mapping requirements, and to oversight development of the Project.

Assistant Statistician - Population Census (Chair)

Assistant Statistician - Business Register and Classification and Industry Census

Assistant Statistician - Technology Applications

Assistant Statistician - Technology Support
Assistant Statistician - Resources Management
Director, Population Census Development and Field Organisation
Supervisor, Mapping Project (representing Statistical and Information Services Division)
(Assisted by members of the Project Team)

Collection Operation Management System Management Review Committee: to review and approve the documentation associated with the tendering and evaluation of the Collection Operation Management System and to oversight development of the System.

Assistant Statistician - Population Census (Chair)
Assistant Statistician - Technology Applications
Assistant Statistician - Technology Support
Director, Population Census Development and Field Organisation
Director, Personnel Management
Director, Management and Information Services (NSW Office)
(Assisted by members of the Project Team)

Census Finance Group: to coordinate the systems that underlie Census budgeting and expenditure monitoring to ensure that there is one single view of the overall state of Census finances; to review and monitor Census expenditure against allocation; and to monitor the revenue performance of Census products and services.

Assistant Statistician - Population Census (Chair)
First Assistant Statistician - Social and Labour Division
Assistant Statistician - Resource Management
Director, Population Census Development and Field Organisation
Director, Population Census Processing and User Services
Director, Corporate Planning and Information
Director, Financial Management
(Assisted by members of the Project Team)

SELECTED 1991 CENSUS PRODUCTS AND SERVICES

*ABS
catalogue
no.*

Census Reference Products

1991 Census Dictionary	2901.0
1991 Census Directory of Classifications	2904.0
1991 Census Geographic Areas	2905.0
1991 Census Urban Centre/Localities Code List	2909.0
How Australia Takes a Census	2903.0

Mapping Products

Thematic Maps 2890.0-8	
Geographic Master File	2917.0
Collection District Conversion List	2918.0
Collection District Comparability List	2919.0
Collection District Maps	2920.0
CMA91	2921.0-8
Customised Map Service	2922.0-8
Digitised Census Boundaries	2923.0
Customised Geographic Information	2930.0-8

Statistical Publications

Census Characteristics (Australia, State/Territory)	2710.0-8
Census Counts for Small Areas	2730.1-8
First Counts for Statistical Local Areas	2701.1-8
First Counts: National Summary	2702.0
Social Atlas (capital cities)	2840.1-8

Thematic Publications

Australia in Profile	2821.0
Australia's Aboriginal and Torres Strait Islander Population	2740.0
Population Growth and Distribution in Australia	2822.0

Matrix tables

National Matrix Tables	2711.0
State Matrix Tables	2712.1-8
Customised Matrix Tables	2714.0-8
Aboriginal and Torres Strait Islander Matrix Tables	2715.1-8
CTAB91	2719.0

CDA91

CDA91	2721.0-8
CDA91 Add-On Products	2726.0

SELECTED 1991 CENSUS PRODUCTS AND SERVICES—continued

ABS
catalogue
no.

Profiles and Comparison Series

Small Area Package	2707.1-8
Community Profiles	2722.0-8
Comparison Series: State	2731.0
Comparison Series: Statistical Region	2732.0-5
Comparison Series: Capital City	2733.0
Ethnic Communities Package	2803.0

Other Products

CLIB91	2720.0
Socio-Economic Indexes for Areas (SEIFA)	2725.0
Household Sample File	2913.0
Master File for Schools: Postcodes	2915.0
Master File for Schools: Statistical Local Areas	2916.0

State Office Products

Social Atlas - Gold Coast	2839.3
Aboriginals in South Australia	2841.4
Local Government Areas, Tasmania	2790.6
Hobart Suburbs	2791.6
Launceston Suburbs	2792.6
Burnie and Devonport Suburbs	2793.6
Urban Centres and Localities, Tasmania	2794.6
Restructured Local Government Areas, Tasmania	2795.6
Final Counts for Selected Areas, Northern Territory	2801.7
Final Counts by Age and Sex for Selected Areas, Northern Territory	2802.7
The Northern Territory in Profile	2821.7
Australian Capital Territory and Town Centre Districts: Selected Characteristics	2821.8
Australian Capital Territory Geographic Profile	2839.8

MARKET RESEARCH REPORT ON 1991 CENSUS PRODUCTS AND SERVICES

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THE RESULTS

1. Background to the study

The Census is the largest data collection exercise undertaken by the ABS and is conducted every five years, with the next census planned for 1996. From the census, the ABS produces a wide range of both standard and customised products and services. For the 1991 census, these were developed as a result of consultations with census data users during 1990 and 1991.

The output program from the 1991 census included a variety of data and outputs including:

- Printed publications

 - both preliminary results, and

 - final data

- Reference products (e.g. contents and procedures, dictionaries, classifications used etc.)

- Maps (CD maps, digitised boundaries, thematic maps etc.)

- Community profiles

- Matrices (national and state)

- CDATA91

- Thematic reports (Social Atlases, Australia in Profile)

These outputs are provided to ABS clients in a variety of media including:

- Hardcopy

- Magnetic tape

- Magnetic cartridge

- Floppy disk

- CD-ROM

Thus a key response in preparing for the 1996 census output and delivery should include an assessment of reactions to the 1991 census output program.

To this end, the Australian Bureau of Statistics (ABS) has commissioned The Wallis Group to undertake an evaluation of the outputs from the 1991 census of Population and Housing.

Research objectives

The aim of the research was:

"To better understand the reactions of ABS clients to the 1991 census output program, the products, services and delivery of these so as to contribute to recommendations for the 1996 census output program"

The overall aim can be broken down into three objectives each of which contribute to the research aim. These objectives are:

- To understand **overall reactions** to the 1991 census output program

- To understand **reactions to specific products and services** in the 1991 census output program

To report on the research findings and make **recommendations** regarding the 1996 census output program

This report addresses the first of these objectives, that is, to report on the **overall reactions** to the 1991 census output program.

2. Methodology

2.1 The interviewing procedure

A combination of indepth face to face and telephone interviews was used to collect the data for this study. Face to face interviews were conducted with the key 'buying centres' in Sydney and Melbourne as well as with the nominated 'lifeline' clients in Canberra, with supplementary telephone interviews conducted with other clients in each of the five mainland states.

A semi-structured, in-depth interviewing procedure was selected for a number of reasons, namely:

The breadth and complexity of the products, attitudes and awareness and usage patterns cannot be accommodated within the limitations of a fully structured questionnaire

An indepth interviewing approach provides the necessary flexibility to fully elicit information on the issues most salient to the respondent

The production of rich detail relevant to the respondent's own frame of reference can be elicited more effectively.

2.2 Respondent selection

Initial contact with respondents was made by telephone. This contact used pre-defined screening procedures to identify the relevant **users** and **decision makers** who comprised the organisational "buying centre" for ABS products and services. Interviews were then be arranged with the person(s) identified, at a mutually convenient time.

The screening allowed us to identify, in advance, the key people to be interviewed.

2.3 Sample

The sample for this study was designed to include clients from each of five selected census product categories, namely:

CDATA91

Customised Matrices

Mapping products

Community Profiles

Thematic publications

A number of further interviews were undertaken with ABS Lifeline clients. A total of 150 interviews were undertaken for this study. This included interviews with:

Government agencies

Private sector clients

Educational institutions

As shown in the figure opposite,

The bulk of the interviews were conducted in the larger states:

9 interviews in Canberra

35 interviews in NSW¹

49 interviews in Victoria

The remaining were conducted in the smaller States:

19 interviews in Queensland

21 in South Australia

17 in Western Australia

The response rate for the sample was very high. The attitude of potential respondents when asked to participate in this study was very positive indeed. This in itself suggest a very positive attitude toward the bureau itself and a perception that the subject of the survey is highly relevant.

While the response rate was very positive, there were some difficulties in achieving interviews with the nominated clients. This was as a result of:

The inability to arrange a mutually convenient time to conduct the interviews. This was the case only with a number of the telephone interviews, many of which were located in NSW.

Inaccuracies in the client lists provided, with no one at the selected establishment claiming knowledge or use in the census product.

Nevertheless, the response towards participation in this study was extremely favourable. However, a possible downside, that needs to be borne in mind, may be that expectations have now been raised as a result of this involvement.

The results of the overall reactions of clients to the 1991 census output program now follow.

3 Major strengths and weaknesses of the 1991 census output program

3.1 Strengths of the program

The figure opposite summarises clients' **spontaneous mentions** of the key strengths of the 1991 census output program. Results have also been provided for government and private sectors for comparison.

Data quality

Not surprisingly, of the key strengths mentioned, many related to the quality of the data. Specifically, they included references to the:

The quality of the data as a result of its comprehensive and detailed nature 21%

Accuracy, reliability and integrity of the data 15%

The usefulness of the data (as a result of its comprehensiveness and accuracy), to the statistical needs of the organisation..... 11%

Mentions made by respondents to the level of detail and comprehensive nature of census data included the following:

The comprehensive range of data collected in the census.

"It is really the dominant source of demographic data - the scope of the data collected, together with the consistent treatment of data items means we have access to the highest quality demographic data"

"The strengths are really the comprehensiveness of the data that is collected, the sheer number of variables and the quality with which the data is collected - it really is the industry standard"

1. A number of NSW clients included in this study were located in the ACT. In addition, there were some difficulties in scheduling interviews at mutually convenient times.

The level of detail at which the data were collected:

the level of disaggregation in the categories used

"The level of detail at which data like industry and occupation was collected and published was excellent - there really is no other source with that detail"

the ability to examine the data at the small area level

"There is no other data source where we can analyse such a huge amount of data for areas in which we operate - sometimes as small as CD's"

Further mentions of the **accuracy and reliability** of the data, together with its **usefulness** in meeting the needs of users, included the following:

"The quality and reliability of the data are not found elsewhere - it is really a unique data set"

"The accuracy of the data - you just know it's right, this together with the availability of quite specialised reports make it an essential part of my information sources"

"We make great use of the data in analysing target areas - I'm not sure what we would do if it was not available"

Service delivery

Next to data quality, service delivery was the most frequently mentioned strength. These comments related to the formats, presentation and ease of use of the data, viz:

Media formats in which the census products were released 10%

"The new products, particularly the release of data on floppy, has made it far easier to use"

"The different formats in which data is now available is more in line with our needs"

Presentation of the products 5%

"This time there has been significant improvements on the layout of tables and the provision of useful indexes. They've also come up with some very good glossy publications"

"There is a much more polished and professional appearance to the products"

Ease of use of the products 5%

"The community profiles in electronic form were really easy to use"

"I'm finding I can do far more than I would have possibly thought - the software isn't at all difficult"

It is clear that clients regard the **data quality**, in terms of its coverage, detail and accuracy, as the key strength of the census.

Whilst not mentioned as frequently, service delivery (which includes facilities made available through new or improved software facilities) is still perceived by clients to be a significant strength of the census. Nevertheless, as is mentioned later in this report, some of these systems, appear to have tempered clients' reactions to this potential strength.

Other than data quality and service delivery, key strengths of the census program were described as:

ABS staff, viz:

"I would have to say that I have noticed quite a significant change in the attitude of ABS staff. They are very much more conscious of their need to provide this organisation, and I can only assume other users, with a greater degree of service, to be much more responsive. To be much more helpful."

Various initiatives to improve the census program since the 1986 census, viz:

"The change in what has been delivered from the 1991 census to what had been delivered from the 1986 census was gigantic. There were more products and in recognition that users are quite different these products new and old were delivered in a variety of formats. I think the changes have been significant and ABS deserve recognition of that fact"

"The bureau's image is still very good. This census was certainly an improvement on the 86 census. For us the 86 census was a shambles, wrong data in the wrong formats. This time they actually made the effort to understand what it was we wanted. I feel they have quite a good reputation in that respect."

The next section details perceived weaknesses of the census program.

3.2 Weaknesses of the program

As shown in the figure opposite, the perceived weaknesses of the 1991 census output program included a range of different issues, relating to timeliness, pricing, ease of use of various products, data quality and support services.

Timeliness

With more than one in four clients spontaneously mentioning the **timeliness** of the census outputs as a weakness of the 1991 program, this issue clearly dominates user concerns. While the timeliness of the output is discussed in some detail later in the report, client concerns can be summarised as follows:

Delay between census night and the first release of data

"I have people coming to me a week after the census wanting to know if there's information available"

"Why does it take 2 years to make the data available? With their computing power it just does not make sense"

Delays in release of products against the scheduled timings

"I'm told it'll be available in January 92, so I plan and tell all my people this. Then January 93 comes around and it's still not available so we re-schedule again. Now I'll just wait for the data and when it arrives I'll start planning"

"There are a number of problems related to the provision of data. One is the timetable for delivery. To compound the initial delay is the major frustration of moving delivery times. In one case the final timing moved out by 12 months"

Pricing

Just over one in ten clients spontaneously mentioned **pricing** of census products as a weakness. As will be shown later in this report, it appears that the pricing of **electronic products** and the **customised tables** in particular have generated some concern among users. Concerns over pricing also exist with respect to:

ABS' community service obligation

"The census is publicly funded and produced. ABS should be in the business of supplying data not selling it. Next thing you know we'll be paying the tax man to come and pick up the taxes from us"

Increase in prices from 1986

"In 1981 the census data was on 13 reels of magnetic tape and cost \$650. Sure it went up in 1986, but in 1991 the same data costs us \$15,000 and royalties! No business expects that sort of increase for the raw product"

The inflexibility of the pricing structures

"With the ABS, if you order something and they get it wrong, but you don't notice in the paperwork leading up to it, then you have to re-order the whole thing again, and pay again."

Product issues

In addition to pricing and timeliness, there were a number of product related issues mentioned as weaknesses of the 1991 program. These included:

- The lack of **user friendliness** of various census products (9%)

- Inflexibility of the software (5%)

- Unsuitable media formats (5%)

Data quality issues

The final area in which weaknesses were identified was in the quality of the data. The concerns raised covered a number of issues including:

- Problems with CD boundaries

- Lack of sufficient detail in the categories published

- Concern over questions not included in the census

- The randomisation procedure used to confidentialise data

A number of these issues will be discussed in a later section of the report. In general, fewer than one in twenty respondents spontaneously mentioned any of these areas as a weakness of the 1991 census.

Finally, it is interesting to note that only one in ten clients spontaneously mentioned pricing as a weakness of the census outputs. As seen later in this report, when prompted for reactions to pricing, clients show a somewhat negative reaction. However, the low level of **top of mind** mentions suggests that **timeliness** remains a more significant issue than does pricing.

4. Client evaluation of the program

The basis of the overall evaluation of the census data and products was to obtain overall impressions of ABS' performance with respect to 1991 census data and data delivery both in general terms and against specific aspects of performance including:

- Pricing

- Timeliness of product and service delivery

- Customer support

- Product utility in terms of appropriateness and usefulness of the products and delivery

The following sections detail customer reactions to these four broad service delivery dimensions.

4.1 Pricing

In measuring reactions to the pricing of census products, clients were asked to rate their satisfaction with the pricing of:

Standard publications

Electronic products, and

Customised tables

The results are shown in the figure opposite. Key points to note from these results are that:

Clients have, in general, reacted positively to the pricing of standard publications from the census. Only 16 per cent of clients considered the prices to be expensive.

A somewhat higher level of dissatisfaction was expressed with electronic products and customised tables:

about one in three (31%) clients considered pricing of **electronic products** to be expensive

almost four in every ten clients (37%) considered pricing of **customised tables** to be expensive

Comparison between client segments

While more private sector clients (52%) than government clients (43%) considered the pricing of standard publications to be good, reactions to the pricing of census data and products were generally consistent between private sector and government clients.

This consistency in results suggest that whilst sensitivity to pricing is still marginally more evident in the **government** sector, this segment appears to be less 'price sensitive' than immediately after the move to a user pays regime².

General pricing issues

There were a number of pricing related issues (not product specific) mentioned by respondents.

The community service obligation argument

Several clients expressed reservations over pricing of ABS products with respect to its own community service obligations. For example,

"It is difficult to accept that the government collected data that the public is compelled to provide and then it is then re-sold back to the information providers at excessive prices. This is not the model used in progressive countries"

"The data is used as a community service obligation and should be at a lower price"

"I have a real problem with paying for public information in an effective form just because the ABS cannot produce it in an effective form in the first place"

"There should be a recognition of the ABS' social obligations through the concept of services being a CSO"

"Many products are over priced - particularly as the data has been provided by the community"

There is clearly some uncertainty among both ABS staff and clients on this matter. Overall, there appears to be some appreciation of the need to re-coup some costs. However, exactly where this line should be drawn, in light of community service obligations, is unclear.

2. Yvonne Wallis, 'The Market for ABS Products and Services', August 1991.

Increase in price from 1986

To many organisations, the increase in pricing from 1986 was a significant irritation and barrier to the quantity of data purchased.

"There was no charge in 1986, and now there is confusion as the pricing structure changed after the order was placed and before delivery. No advice was given until I rang to inquire"

"5 years ago ABS products were either free or at a nominal fee. Now we can't afford them. ABS was a public facility, now it's a public enterprise"

"Government departments once got free products. It's now very difficult to get enough budget to cover the increase from zero to \$20,000 over a two to three year period"

Inflexibility in pricing structures

Finally, some private sector clients were critical of the pricing structure used by the ABS - both in the levels set and the inflexibility of charges made on clients. For example,

"We require only a small sub-set of data but are always charged for the complete set"

"The pricing policy isn't understood by ABS' own staff - I get different quotes from different staff"

"City of Geelong provides a service similar to that provided by the ABS and I'm sure this curbs the number of requests that go to the ABS. We provide this service for free but are charged full price by the ABS for the data"

These issues, whilst not necessarily specific to any one census product, may in fact underpin some of the reactions expressed by clients to the pricing of specific ABS census products.

The next sections examine reactions from clients to pricing within each of the broad census product categories.

Reactions to the pricing of standard publications

As stated earlier, reactions to the pricing of standard products were quite positive. Further, this result was consistent between both government and private sector clients.

"Prices of their publications are excellent - so much information for really very little cost"

"Prices seems to be very competitive - particularly when you compare them to other information products on the market"

"I don't know where you could get a comparable product"

The results suggest that clients clearly consider these publications to provide value for money.

Reactions to the pricing of electronic products

As also discussed earlier, the prices of electronic products from the 1991 census generated some dissatisfaction from census clients. In particular, as demonstrated in the figure opposite, CDATE91 clients were the most likely to report a negative attitude to the prices of electronic products.

CDATA91 clients

The dissatisfaction with pricing among CDATE91 clients appears to be a result of difficulties experienced in interfacing and using CDATE91. Further, the **complexity of the software and problems experienced in using the product** have led to the perception from some clients that this product does not present value for money.

"CDATA has so many problems and does not allow for quick production of information. As such I believe that it is poor value for money"

"The cost of CDATA91 is very high particularly when you take into account the time we need to spend on training and coming to grips with the system and what it can do"

"The CD ROM products are simply just too expensive"

It could reasonably be expected that these reactions will change over time as experience and competence with the system increases. Nevertheless, the frustrations have generated some significant concerns amongst users at the present time.

Other clients

Among other clients there is a perception that the addition of new/improved software results in a disproportionately high increase in the price of the census product.

"Where other third party software is included, the price is far less attractive"

"CDATA and Mapinfo software is very expensive - it contains a lot of information which is of no use to us"

"It is massively expensive especially as electronic medium is now widely becoming the most convenient and useable form"

"Where it is data only, the cost and service is good. Add in some fancy software and the price escalates"

It is likely that some clients have equated the price increases from the 1986 census with the added software facilities now available with electronic products.

Reactions to the pricing of customised tables

Reactions to the pricing of **customised tables** were similar to those for electronic products. In this case it was **Community Profile** clients who were the most likely to express dissatisfaction with prices.

Community profile clients

Among this group, the perceived inconsistency of pricing of census products (that is the prices of customised tables compared to other ABS products) was clearly of concern.

"I've got to prepare detailed profiles for a large number of LGAs and the cost of obtaining these tables is far too expensive which leaves me in no man's land"

"The prices of the electronic products are far cheaper than products like customised matrices"

Further, there was some indication that the pricing levels and structures were prohibiting these users from accessing customised tables.

"The pricing for those customised tables is entirely inconsistent - for example adding one variable can increase the price disproportionately"

"The pricing structure for customised tables has a start up fee and then a per cell cost. We can get a whole lot of data from BCP's for the start up fee although many times this doesn't cover exactly what we need. We've stuck with these because we know what we get although on the other hand we'd really love to be able to use the customised tables"

Other clients

For other clients, inconsistencies in the prices of various census products, together with the price increase from the 1986 census, were the main reasons for their dissatisfaction that existed with the pricing of customised tables.

"Prices of customised tables have escalated astronomically, by a multiplication factor of 7"

"The price of customised tables is expensive especially when you compare the cost to the cost of other ABS products"

"The customised data is simply just too expensive for us to buy"

"The cost of census crosstabs at \$250 each was simply prohibitive to my budget"

Nevertheless, the low level of spontaneous mention of pricing as a weakness on the 1991 census output program suggests that while it is, and is likely to remain, a somewhat contentious issue, clients have not raised it as a major concern of the census program. However, reactions to the pricing of electronic products and customised matrices appear to indicate that a review of pricing structures may be appropriate.

4.2 Timeliness

In measuring reactions to the timeliness of census products, clients were asked to rate their satisfaction with respect to:

Delivery of the standard products in a timely fashion

Response to customised requests for data

Ability of the ABS to provide products on schedule

An overview

The results shown opposite confirm that the timeliness of the 1991 program has generated some irritation among clients. The figure opposite shows:

The two key areas in which clients were least satisfied with the ABS were:

the timeliness in delivering the standard products from the census

the ability to deliver products as scheduled

On the other hand, the response to customised requests for data received a more positive response with almost one in two clients considering ABS' response in this regard to be "good".

Again, there was very little difference in the manner in which private sector clients and government sector clients viewed the ABS on timeliness.

Reactions to ABS' ability to deliver standard products in a timely fashion

There were a number of clients who were understanding of the time taken to release products from the census. These clients made reference to the enormity of the processing tasks and recognised the increasing demands placed upon the ABS in relation to the release of census data.

"ABS has provided a huge increase in volume and complexity of data - very impressive. That timeliness has not been achieved is secondary given the budgetary and other problems"

"I recognise the difficulties in meeting deadlines for the wide range of requests"

"Timeliness is always a contentious issue and I think the ABS should be educating some of its users about the whole process. Then they might be more appreciative of the tasks involved and the volume of data we are talking about"

There were however a larger number of clients whose reactions to this issue were less accepting. Reactions ranged from disappointment at the time taken to release census products, through to serious questions with respect to the value and relevance of the information given its late arrival:

"Three years after the census and we still have very little"

"It was mid 93 before we started getting the information we needed."

"The ABS need more staff available to work on census products to speed up the releases"

"It really should have been published within a year"

"I really prefer the data to be released faster particularly given the rapid changes in the economy which affects population and related statistics"

"The data is two years out of date by the time it becomes available"

"I find I'm having to use the 86 data long after the 91 census was taken and I ask myself why?"

"As it took some years to release, the question arises as to the relevance in 1994"

Clearly, awareness of the processes and size of the task is somewhat limited among census clients. In these circumstances, the possibility of **better educating clients** on the processes involved in releasing these products appears to be desirable. Any opportunities to **shorten this process** should also be reviewed.

Reactions to ABS' ability to deliver products on schedule

The inability to deliver as scheduled was the other timeliness issue to be regarded poorly.

"There was always constant slippage and revision of the delivery schedules"

"Really, a poor performance to schedule"

"The delivery schedules were never observed with the result that everything was delayed"

"The biggest problem was the non observance of the promised delivery dates"

Delays in the agreed release of electronic products also contributed to frustrations with these products and with the level of service in general.

"Late - the delay between versions 1 and 2 of CDATE suggest that version 1 was released before it was ready"

"The quoted delivery times were simply not realistic for the electronic products"

These delays in meeting published schedules resulted in many clients having to re-schedule work, re-contact secondary clients about the on-going delays and in some circumstances bear additional costs.

"The release dates were repeatedly put back so that training was carried out too early necessitating re-training 6 months later and the continued use of old data"

"When the ABS finally informed us on the delays to what had been promised, I had to then re-schedule all my timetables and inform all the clients to whom I provide data."

"It meant that we had to continue work using old data. Based on the schedules made available to us, we informed our own people. We then had to go back and tell them that WE couldn't deliver on time - it made us look really unprofessional"

The inability to meet these scheduled releases appears to have the potential to alienate clients very quickly. For a number of clients, the release dates form an integral part of their planning and decision making processes. Thus greater adherence to the release dates would significantly assist these clients to meet their own scheduling requirements. It is likely that a later release date that is met, will be more favourably received than would an earlier date that is not,

"I got date after date and in the end I simply gave up until I got the product in my hands."

"We are under severe pressure from within the department because we always follow what we are told from the ABS. They tell us March, then we keep telling everyone March. And then we don't get it in March and it becomes April maybe May. I plead with them to give me one date that they can guarantee - I'll be happy and I can satisfy everyone else in the department"

"I don't care if I get a date 6 months after what I would have expected as long as they deliver on that date and not an hour late"

It is this ability to meet promised schedules which explains the more positive reactions to customised requests for data.

"The normal turnaround was about four weeks. I'd allow for that and they delivered - so I was happy. You see, as long as I know up front, we can cope with it. But I'd much rather them tell you up front, than say we can turn it around in two weeks then not deliver"

"Overall they are able to respond to specific request for tables quickly - they are prompt in telling me how long and more importantly in delivering on time"

"I wish sometimes they could respond as well as they have on my specific requests for numbers. For those they give me a delivery date and most times beat it"

The ability to schedule delivery of products to clients is an area in which some further attention should probably be focussed.

4.3 Customer support

The third dimension on which the 1991 census output program was evaluated was that of customer support. ABS' performance was measured by obtaining clients' overall reactions to:

Knowledge of census products among ABS staff

The ability to access the right person

Helpfulness of ABS staff

Quality of training

Provision of technical and after sales support

Overall, there was a very positive reaction to the services supplied by the ABS. As shown in the opposite figure, ABS was rated very positively on their:

Level of knowledge of census products (almost 7 out of every 10 clients rated ABS to be good or very good in this regard)

"We have developed a working relationship with the ABS staff. We have developed a system where we describe the type of data required and its use, and staff at ABS are always ready to advise"

"All the staff are trying to respond to our needs and the direction we are heading in. High level contact with the ABS has allowed us to get things done - we are now working together in more of a partnership. There is still the odd niggles and frustrations but that's expected - that's life in business"

"Good but they tend to talk to you as if you know the product as well as they do"

"The service provided by ABS staff in respect of advice, information, facts and the CDATE helpdesk is prompt and efficient. Nothing is too much trouble for them"

Helpfulness of ABS staff, where again, almost 7 out of every 10 clients rated ABS to be good or very good

"The people at the bureau are very helpful, professional and dedicated to their job"

"I have found them to be very professional and helpful with excellent response times"

"They are always helpful, positive, honest and professional. If they don't know something they will find out and ring back within the same day. Once my order was lost but I accept that this sometimes happens - the staff were very apologetic - after all they are humans not robots"

60 per cent of clients were satisfied with their ability to **get to the right person** concerning census products

"ABS seems to be much more customer focussed than 4-5 years ago. You used to get the run around through the bureaucracy. Now if one person can't help they find someone who can"

"I am very happy with the service ABS staff provide. They are always very helpful and take the time to find the right person. Their follow up is always prompt"

There is clear evidence that much of the satisfaction with ABS' support services arises from networks and relationships developed between ABS staff and clients.

"I have established useful contacts within the ABS. The staff are generally very useful in relation to specific queries"

"Generally professional although the approach taken depends upon the individual. Some are more market oriented than others. Excellent relationship with some. No relationship which could be described as poor"

On the remaining two criteria, those relating to the **quality of training** and the **provision of technical assistance and after sales support**, ABS did not perform as well. At the same time, for a number of clients these measures were somewhat inappropriate given their lack of any need for these services. Nevertheless, training and after sales support were typically rated below the other criterion.

Training

There were three broad areas of criticism with regard to the training provided on census products. Most of the criticism came from experiences with CDATA91, although there were similar concerns raised over the training and support for other electronic products.

Amount of training provided

Clients from both the private and government sectors were critical of the amount of training provided. The 3 hour course provided for CDATA91 while thought to be useful, was not considered to be **sufficient** given the complexity and detail of this product:

"Not nearly enough training. ABS must consider providing several training sessions (each with greater detail) and in particular training for Mapinfo with CDATA91. These sessions could conceivably take 1-2 days each - much like TAFE software courses. Training should be free to purchasers of CDATA91"

"Training on CDATA was adequate but could be extended to say one full day"

"Not enough - if they are going to sell a complex product they need to provide adequate training"

Quality of the course content

Some criticism was levelled at the **content** of the training and support provided for census products. To some extent the comments reflect the significant variation in the skills and experience of the clients and the subsequent failure of the training to address this scenario:

"Average. Much of the information presented was over-simplified. It should be more focussed on using the data, not on the advantages census data gives your business. But the presentation itself was of a high professional level"

"The ABS made a lot of effort to train our users in CDATA. However the product itself is difficult to use and once the trainer had left, using the product was difficult"

"Many of the manuals were only in draft form and next to useless, often wrong. Fortunately we've been able to work most things out ourselves despite the lack of technical help"

"At the same time our trainer was training a proposed new trainer - this was very off putting"

Ability of the trainers

Some clients were critical of the expertise that had been divested in the trainers.

"The training staff did not know the CDATE91 package very well. They kept telling us to use the tutorials. While they were friendly, courteous and returned my calls, it really doesn't make up for their own lack of training in the package"

"I reckon that within a few minutes of the training, my staff knew more than the trainers"

"My free training with CDATE91 was fun but a bit useless. I knew as much as the ABS staff did about the product and what I really wanted to know, things about Mapinfo and performance issues was not, or could not be covered"

"I always received very prompt attention from my main contact but she didn't seem to have a really good grasp on interpretation of data - she always had to refer this to someone else, but she did so efficiently"

"We haven't had much and I wasn't all that impressed with the CDATE91 sessions that were provided. Teaching techniques and support materials were fairly ordinary"

These comments suggest that the training for census products probably needs some attention. The results also suggest that this attention be directed at:

Ensuring training staff are well skilled in the products together with basic teacher training techniques. The alternative may be to sub-contract these services to an outside supplier.

Providing courses which are targeted at user requirements. It was clear from this study that the skill levels of clients vary significantly with the result that the more skilled users found the training inadequate.

The next section evaluates client reactions to the appropriateness and usefulness of the products.

4.4 Product utility

The final dimension on which the 1991 census Output program was evaluated was that of product utility. For this dimension, measures were taken of the:

Appropriateness of the products

Relevance to the organisations statistical requirements

Classifications suitable to the needs of the organisation

Quality and reliability of the data

Provision of information about census products

Ease of use

Presentation quality of census publications

Ease of use of hard copy publications

Ease of use of electronic products

Ease of use of the dissemination media

The figure opposite summarises the results for the first four of these criteria. Notably, the majority of clients rated ABS as either good or very good on each of these four criteria. ABS' performance against each is now discussed in turn.

Relevance of the data

Overall, the results demonstrate that the census is perceived as a **highly relevant** data source. Four of every five clients reported the data to be highly relevant to their needs with only one in five expressing concerns in this regard.

On this measure, there were slight differences reported between private sector (84%) clients and government clients (79%). Slight inequities in boundary definitions (e.g. travel zones) appear to have generated some irritation from various government departments and authorities.

"Our travel zones simply do not match CDs or aggregation of CDs. In fact there is no match and the ABS seem unwilling to change. This makes our task all the more difficult"

Nevertheless, the result represents very positive support for the census.

Classifications Used

Again, there was strong support for the standard classifications used in the census. Almost three out of every four clients considered the classifications to be appropriate. Once again, the private sector (76%) clients were marginally more positive than government clients (69%).

Within the product segments, matrix table clients reported a slightly lower level of satisfaction. This appears likely to be a result of:

The need for more finely disaggregated data

Restrictions as a result of confidentiality requirements

"We get interest from other people in the department for information on minority groups in a particular area in Sydney and they want it by whether they speak English very well and what their religion is - cross classified by the normal things. We just can't get it. We say we can't get it and blame the ABS"

"Again, I think it is a bit of a problem with the customised stuff because you don't know where that cut off is going to come. Even if you had a hundred households and that was the cutoff, you'd more than likely want to look at non-English speaking households and you're stuffed"

For the significant majority of clients, the classifications used were found to be satisfactory.

Quality and reliability of the data

On this criterion, almost two out of every three rated the quality and reliability of census data as good or very good. This result is consistent with the level of spontaneous mention reported earlier where clients reported data quality as the most significant strength of the census program.

"I think the Australian and the Canadian bureaus are probably the two finest collection groups in the world. They do the best Censuses in the world."

"What is gathered is comprehensive and of high quality. It's a fine organisation and it produces high quality information and lots of it. I constantly use the stuff in various formats - hard copy, microfiche, CDATA91 and the rest. Its hard to fault"

The few concerns raised by clients about the quality of census data related to:

Difficulties in matching postcode boundaries on the digitised boundary product. Inequities in boundary locations and missing postcodes were the primary source of irritation for some clients

"If there is a defect in the data the bureau provides it is in postcodes. We have found for example in Victoria there are a great many of them that exist, according to Australia Post but they don't exist for the census. We went to an awful lot of trouble to discover this"

As discussed earlier CDATA91 clients have sometimes equated system reliability with data reliability. Frustrations with inflexibility in the software, continual updating of the software and its overall complexity can lead to criticisms of the reliability of the data itself:

"We still don't have all the things that we're supposed to have on it and I don't know when they are meant to be released. Also all the options don't seem to work. One of the things that should be very simple, but I can't get it to work is doing things like making groupings of data. In version 1 it was a tedious process and in version 2 it looks easier but I can't get it to work. So frustrating"

Information about census products

With respect to the provision of information on the availability of census products 63 per cent of clients rated ABS as either good or very good on this criterion. Repeat clients, or clients who were on existing mailing lists were clearly at some advantage in obtaining information about census products.

"They send stuff down from time to time. I know what I want but the people who probably don't know much about it probably don't receive it"

"I suppose there needs to be a judgement made about the relevance of promotional material. But I'd rather have too much information than not enough. I can always throw things away"

First timers appear to be at some disadvantage,

"I get lots of information from Mapinfo about what they are up to. I get little from the ABS. I have to rely on hearsay"

The results suggest that private sector clients include more "first timers" and also report being less satisfied than government clients (56% versus 69%). The promotional and information sources available, including Census Update, were well received although demand continues for specialised, timely advice:

"The catalogue is good because it tells you everything that has been released. But what it doesn't show you is the possible crosstabs and matrices that are available. User specific brochures would be useful - as long as they didn't cost"

"The ABS makes good use of the forums they get themselves involved in. They seem to generate lots of opportunities for showing what is available and the uses it can be put to. The Census Update works well in that regard also"

"It doesn't come out frequently enough to be up to date with everything that is being released. As a quarterly it's just not relevant enough. We need information and data quickly, as soon as it hits the streets people are calling us"

Some opportunity exists for Census Update, in particular, to take a higher profile than at present. More frequent issues at the time when the census products are released would probably assist in **better informing** existing clients on what is available, especially within the private sector..

Ease of Use

The figure opposite summarises the results for the second set of these criteria that were rated by clients. While the levels are slightly lower than the previous measures, the **majority** of clients rated ABS as either good or very good on each one of these four criteria.

Easy to use hard copy publications

Most clients believed the ABS produces hard copy census publications which are easy to use.

"For a typical bit of information you're after, it's a hell of a lot easier these days to go and grab one of the publications. They are really easy to follow and nine times out of ten you can find your answer from a publication and you're done and finished"

"A lot of people in this department are using publications and that says a lot for them. I think 80% of the time I'm able to get the information I need from publications - it's easy, they are laid out in an easy to read and logical format"

The Social Atlas was mentioned by a number of clients as a very good, easy to use publication.

"It's good and easy to appreciate the impact of different socio-economic characteristics in Sydney and NSW. It's good for users who don't have a technical background. The way it's presented I think is quite easy to understand. I think it's a great product"

Easy to use electronic products

Slightly fewer clients (just under half the sample) believed that electronic census products were easy to use. As previously discussed, this attitude appears to relate most to:

System difficulties with CDATE91

Perceived inflexibility of the accompanying software

Inadequacies of the training provided with the electronic products

At the same time, the more technically sophisticated users clearly had little difficulty:

"They're pretty simple to use. If you've used spreadsheets at all it's a pretty simple piece of software"

"The software was quite complex last time. You had to know what you were doing. But now, most people could get basic tables out without any trouble - there's been big improvements"

On balance however, there appears to be some need to look at ways of improving the user friendliness of electronic products.

Presentation quality of census publications

Overall, most clients were satisfied with the presentation quality of census publications. Publications like the Social Atlas and the mapping facilities available with CDATE91 have clearly enhanced users perceptions of the census products. There was little difference between private sector and government sector clients in this regard.

Dissemination in easy to use media formats

Finally, the **range of media formats** in which census data is now available is typically considered to be a positive attribute of the census program. Two out of every three clients view the range of media formats provided by the ABS in a positive fashion.

"There are now lots of ways in which you can receive census data. This suits us because as a large department we have lots of different systems and users - and they all want access to the data"

"The MAC versions have allowed us easy access to ABS census data. This was not available before"

Exceptions to this positive attitude often related to the digitised census boundaries. Some clients reported difficulties in obtaining digitised boundary data in a range of supposedly 'industry standard' GIS systems, while others reported having difficulties in **importing data** into existing data analysis systems.

BIBLIOGRAPHY

1. Collection Phase Evaluation Conference: Conference Report
2. Census Mapping Project: Request for Tender to supply Mapping Services and Facilities for the Census of Population and Housing: Final Evaluation Report to Management Review Committee (Commercial - in - Confidence)
3. Collection Operation Management System: Phases 0 to 5 Reports to Management Review Committee
4. Census Working Paper 93/1: A Study of the Performance of Sequencing Instructions in the 1991 Census
5. Census Working Paper 93/2: Comparison of Self-coded and Write-in Responses: July 1992 Test
6. Census Working Paper 93/3: 1991 Census Data Quality - A study of posted-in forms
7. Census Working Paper 93/4: 1991 PES - Comparison of Census and PES Responses
8. Census Working Paper 93/5: Population Census Public Communications - A Marketing Approach
9. Census Working Paper 93/6: 1991 Census Data Quality - Aboriginal and Torres Strait Islander Counts
10. Census Working Paper 94/1: 1991 Census Data Quality - Labour Force Status
11. 1991 Census Fact Sheets (Series 11.0 - 11.8): Non-Response Rates - 1991 and 1986 Censuses
12. 1996 Census of Population and Housing: ABS Views on Content and Procedures (ABS Cat. No. 2007.0)
13. Content and Procedures for the 1991 Census of Population and Housing: Discussion paper for Item 3 of ASAC meeting, July 1993
14. Testing of possible questions on Ethnic Origin and Disability for the 1996 Census: Discussion paper for Item 2b of ASAC meeting, November 1993
15. 1991 Census Population Census Data Processing Centre Final Report
16. 1996 Census Population Census Processing System: Strategic Directions
17. Optical Mark Reader Evaluation (Commercial - in - Confidence)
18. Directions for First Release Processing and Balancing
19. Fields to be Processed for First Release of 1996 Census Final Data
20. Balancing System: Phases 0 to 5 Reports to the Management Review Committee
21. First Release Processing Computer Assisted Coding in the PC Environment
22. Second Release Processing in the PC Environment
23. Computer Assisted Coding: Phases 0 to 5 Reports to the Management Review Committee
24. Amendment System: Phases 0 to 4 Reports to the Management Review Committee
25. Edit and Imputation Strategy
26. Edit and Imputation System: Phases 0 to 4 Reports to the Management Review Committee
27. Query Resolution System: Phases 0 to 5 Reports to the Management Review Committee

28. Proposed Tabulation System (Commercial-in Confidence)
29. Quality Management System: Phases 0 to 5 Reports to the Management Review Committee
30. Management Information System: Phases 0 to 5 Reports to the Management Review Committee
31. Flow Control System: Phases 0 to 3 Reports to the Management Review Committee
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